BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

ROBERT "BOB" BURNS – Chairman
BOYD DUNN
SANDRA D. KENNEDY
JUSTIN OLSON
LEA MARQUEZ PETERSON

IN THE MATTER OF THE NOTICE OF PROPOSED RULEMAKING REGARDING INTERCONNECTION OF DISTRIBUTED GENERATION FACILITIES.

DOCKET NO. RE-00000A-07-0609

DECISION NO. 77284

OPINION AND ORDER

DATES OF ORAL PROCEEDINGS: March 28 and 29, 2019

PLACES OF ORAL PROCEEDINGS: Tucson and Phoenix, Arizona

ADMINISTRATIVE LAW JUDGE: Sarah N. Harpring

APPEARANCES: Ms. Maureen Scott, Deputy Chief of Litigation and Appeals, Legal Division, on behalf of the Utilities Division of the Arizona Corporation Commission.

BY THE COMMISSION:

This matter involves rulemaking to create a new Article 26, entitled "Interconnection of Distributed Generation Facilities," in Arizona Administrative Code ("A.A.C.") Title 14, Chapter 2, the chapter containing the Arizona Corporation Commission's ("Commission's") rules for fixed utilities. The new Article 26 rules are designed to establish technical standards and processes for utilities to use when considering applications for interconnection and parallel operation of distributed generation facilities.

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Having considered the entire record herein and being fully advised in the premises, the Commission finds, concludes, and orders that:

FINDINGS OF FACT

Process and Background for the Rulemaking

1. On May 27, 1999, the Commission's Utilities Division ("Staff") issued a letter to parties interested in retail electric competition to announce that Staff had scheduled an initial workshop to

address issues related to Interconnection of Distributed Generation ("DGI"), to be held on June 28, 1999, as part of a long-term working group process. Staff solicited identification of issues and recommended discussion topics.

2. On June 28, 1999, the DGI Workshop was held as a Special Open Meeting.

3. On July 28, 1999, Staff filed a memorandum requesting that a docket be opened for a general investigation of DGI. As a result, Docket No. E-00000A-99-0431 ("DGI Docket") was opened.

4. A DGI Workgroup, and three associated committees, were formed, including an Interconnection Standards Committee. The Interconnection Standards Committee met 12 times from August through November 1999, while the DGI Workgroup met a total of four times during the same time period. At the end of 1999, the DGI Workgroup process transitioned into an Advisory Committee process, with the Advisory Committee[1] tasked to review the DGI Workgroup committees' reports and create a final report for Staff to use as a resource in drafting rules for DGI. The Advisory Committee met six times in January and February 2000 and issued a DGI Workgroup Final Report on June 28, 2000.[2] Nothing further was filed in the DGI Docket for approximately the next five years.

5. In Decision No. 67744 (April 7, 2005), issued in an APS rate case docket,[3] the Commission approved a settlement agreement requiring Staff to schedule workshops to consider outstanding issues affecting distributed generation ("DG") and to refer to the results of prior DG workshops when determining the specific issues that would benefit from further study. The settlement agreement stated that the workshops could be followed with rulemaking if necessary. The Decision ordered Staff to schedule the workshops within 90 days of the effective date of the Decision.

6. On June 17, 2005, in the DGI Docket, Staff issued a memorandum soliciting participation in the workshop process and scheduling the first workshop to be held on July 8, 2005, with DGI as the topic.

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[1] The Advisory Committee members included representatives from Arizona Public Service Company ("APS"); Salt River Project ("SRP"); the Distributed Energy Association of Arizona; the City of Tucson; New Energy, Inc.; Engine World; Tucson Electric Power ("TEP"); Southwest Gas; the Distributed Power Coalition of America; the City of Phoenix; and NEV Technologies.

[2] The DGI Workgroup Final Report was filed in the DGI Docket on July 5, 2000. The Memo accompanying the Final Report indicated that the DGI investigation process was considered complete and that Staff expected imminently to establish the process that would eventually lead to formal rulemaking in 2001.

[3] Decision No. 67744 was issued in Docket No. E-01345A-03-0437.

7. On June 28, 2005, Congress passed the Energy Policy Act of 2005[4] ("EPACT 2005"), which, *inter alia*, amended Section 111(d) of the Public Utility Regulatory Policies Act of 1978[5] ("PURPA"), codified at 16 U.S.C. 2621(d), by adding the following:

> (15) Interconnection.--Each electric utility shall make available, upon request, interconnection service to any electric consumer that the electric utility serves. For purposes of this paragraph, the term "interconnection service" means service to an electric consumer under which an on-site generating facility on the consumer's premises shall be connected to the local distribution facilities. Interconnection services shall be offered based upon the standards developed by the Institute of Electrical and Electronics Engineers: IEEE Standard 1547 for Interconnecting Distributed Resources with Electric Power Systems, as they may be amended from time to time. In addition, agreements and procedures shall be established whereby the services are [sic] offered shall promote current best practices of interconnection for distributed generation, including but not limited to practices stipulated in model codes adopted by associations of state regulatory agencies. All such agreements and procedures shall be just and reasonable, and not unduly discriminatory or preferential.

EPACT 2005 also added, *inter alia*, the following language to PURPA Section 112(b), codified at 16 U.S.C. 2622(b):

> (5)(A) Not later than 1 year after the enactment of this paragraph, each State regulatory authority (with respect to each electric utility for which it has ratemaking authority) and each nonregulated utility shall commence the consideration referred to in section 111, or set a hearing date for consideration, with respect to the standard established by paragraph (15) of section 111(d).
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> (B) Not later than two years after the date of the enactment of the this [sic] paragraph, each State regulatory authority (with respect to each electric utility for which it has ratemaking authority), and each nonregulated electric utility, shall complete the consideration, and shall make the determination, referred to in section 111 with respect to each standard established by paragraph (15) of section 111(d).

8. The consideration and determination to be made by each state regulatory authority was contained in Section 111(a) of PURPA, which provided:

> (a) CONSIDERATION AND DETERMINATION.—Each State regulatory authority (with respect to each electric utility for which it has ratemaking authority) and each nonregulated electric utility shall consider each standard established by subsection (d) and make a determination concerning whether or not it is appropriate to implement such standard to carry out the purposes of this title. For purposes of such consideration and determination in

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[4] EPACT 2005, published as Public Law 109-58, became effective on August 8, 2005.

[5] PURPA, published as Public Law 95-617, became effective on November 9, 1978. PURPA's express purposes are "to encourage— (1) conservation of energy supplied by electric utilities; (2) the optimization of the efficiency of use of facilities and resources by electric utilities; and (3) equitable rates to electric consumers." (PURPA § 101.)

> accordance with subsections (b) and (c), and for purposes of any review of such consideration and determination in any court in accordance with section 123, the purposes of this title supplement otherwise applicable State law. Nothing in this subsection prohibits any State regulatory authority or nonregulated electric utility from making any determination that it is not appropriate to implement any such standard, pursuant to its authority under otherwise applicable State law.

9. Between July 8, 2005, and March 17, 2006, Staff held seven workshops concerning DG, with DGI as the first issue addressed. The workshops included participation from myriad entities, including utilities, governmental agencies, energy efficiency and environmental advocacy groups, utility investors, large industrial customers, renewable resource advocates, competitive power providers, DG advocates, product suppliers, research entities, and others. Through the workshops, although there was not consensus as to all issues, an Interconnection Document was developed that included processes and procedures for standardizing the interconnection of DG facilities of 10 MW or less.

10. On January 24, 2007, Staff filed, in the DGI Docket, a Staff Report with its proposed version of the Interconnection Document, which included Staff's recommended position for each disputed issue. In the Staff Report, Staff recommended that the Commission adopt a modified version of the PURPA standard on interconnection that would apply to all Commission-regulated electric distribution companies in Arizona. Staff recommended that the Commission direct Staff to commence rulemaking to convert the Interconnection Document into rules and that the Interconnection Document be used as a guide for DGI by electric distribution companies until such rules became effective. Staff subsequently issued a memorandum soliciting comment on the Staff Report.

11. On June 15, 2007, in the DGI Docket, Staff issued a Memorandum and Proposed Order recommending that the Commission adopt a Staff-recommended modified version of the PURPA standard on interconnection, that the Commission direct Staff to begin a rulemaking process to convert the Interconnection Document into rules, and that the electric distribution companies use the Interconnection Document as a guide until DGI rules go into effect.

12. In Decision No. 69674 (June 28, 2007), issued in the DGI Docket, the Commission adopted the following modified version of the PURPA standard on interconnection:

> *Each electric utility shall make available, upon request, interconnection*

> *service to any electric consumer that the electric utility serves. For purposes of this paragraph, the term 'interconnection service' means service to an electric consumer under which an on-site generating facility on the consumer's premises shall be connected to the local distribution facilities. Interconnection services shall be offered based upon the Arizona Corporation Commission's rules for interconnection when such rules are adopted and become effective. Until such rules are adopted and become effective, the Interconnection Document shall serve as a guide for interconnection unless otherwise ordered by the Commission.*[6]

The Commission also ordered Staff to begin a rulemaking process to convert the Interconnection Document into rules.

13. In October 2007, Staff issued a memorandum requesting that a docket be opened for the purpose of amending 14 A.A.C. 2, the rules for fixed utilities, to address DGI. As a result, this docket was opened. No additional filings were made in this docket until June 2015.

14. On June 26, 2015, Staff filed an initial draft of DGI Rules in this docket. Staff also filed, in the DGI Docket, a memorandum requesting that interested persons refer to this docket for the draft DGI Rules and participate in this docket.

15. DGI Workshops were held on April 13 and June 15, 2016, to discuss technical and policy-related issues. At the workshop on April 13, presentations were made by the Southwest Energy Efficiency Project ("SWEEP"), TEP and Unisource Energy Services, APS, Hyde Engineering, and Western Resource Advocates ("WRA").

16. On September 6, 2017, Staff filed a memorandum including a revised draft of the DGI Rules; a summary of the major changes made from the initial draft; a request for interested persons to provide informal written comments on the revised draft by October 6, 2017; and an announcement that another workshop was to be held in October 2017.

17. Comments on the revised draft were filed by Arizona Investment Council ("AIC"); Grand Canyon State Electric Cooperative Association, Inc. ("GCSECA")[7]; Energy Storage Association; Sunrun, Inc. ("Sunrun"); WRA and SWEEP (jointly); APS; Energy Freedom Coalition of America ("EFCA"); and TEP and UNS Electric ("UNSE") (jointly).

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[6] Decision No. 69674 at 4; *see id.* at 26, ex.

[7] GCSECA's members include Duncan Valley Electric Cooperative, Inc.; Graham County Electric Cooperative, Inc.; Mohave Electric Cooperative, Inc.; Navopache Electric Cooperative, Inc.; Sulphur Springs Valley Electric Cooperative, Inc.; and Trico Electric Cooperative, Inc.

18. On October 18 and 30, 2017, Notices of a Stakeholder Meeting and Workshop, to be held on November 6, 2017, were filed in this matter.

19. On November 6, 2017, the Stakeholder Meeting and Workshop was held as a Special Open Meeting. The workshop included presentations by WRA, TEP, and APS; Staff-led discussion concerning specific issues; and extensive stakeholder input. Aside from the presenters, the stakeholders who participated included EFCA, the Arizona Solar Energy Industries Association ("AriSEIA"), Sulphur Springs Valley Electric Cooperative ("SSVEC"), and the Residential Utility Consumer Office ("RUCO").

20. On February 26, 2018, Commissioner Andy Tobin filed comments regarding the revised draft DGI Rules.

21. On April 18, 2018, Staff filed a Memorandum and Proposed Order, including a second revised draft of the DGI Rules, for consideration by the Commission at the Open Meeting scheduled for April 26, 2018. Staff's Proposed Order recommended that the Commission commence formal rulemaking by directing Staff to file a Notice of Rulemaking Docket Opening ("NRDO") and a Notice of Proposed Rulemaking ("NPRM"), including the second revised draft of the DGI Rules, for publication in the *Arizona Administrative Register*.

22. On April 23, 2018, Staff filed a Memorandum inviting parties to file comments on the Proposed Order by May 3, 2018, as the Proposed Order had not been placed on the agenda for the Open Meeting of April 26, 2018.

23. Between April 23 and May 3, 2018, comments on the Proposed Order were filed by WRA and SWEEP (jointly); the Alliance for Industrial Efficiency; EFCA; the Energy Storage Association; APS; and TEP and UNSE (jointly). The Energy Storage Association filed additional comments on November 27, 2018.

24. On November 30, 2018, Staff filed a second Memorandum and Proposed Order, including a third revised draft of the DGI Rules, for consideration by the Commission at the Open Meeting scheduled for December 17 and 18, 2018. Staff again recommended that the Commission commence formal rulemaking by directing Staff to file an NRDO and NPRM, including the third revised draft of the DGI Rules.

25. Comments on the second Proposed Order and the third revised draft of the DGI Rules were filed by WRA, GCSECA, EFCA, APS, Sunrun, TEP and UNSE (jointly), AriSEIA, Distributed Energy Resource Equipment and Systems UL LLC and Energy & Power Technologies UL LLC (jointly), and the Solar Energy Industries Association ("SEIA").

26. The second Proposed Order and third revised draft of the DGI Rules were discussed at length during the Open Meeting on December 18, 2018, but no vote was taken. It was determined that the second Proposed Order and third revised draft DGI Rules would be held over until the January 2019 Open Meeting and that Staff would in the meantime file a written response to several proposed amendments so that the Commissioners could consider Staff's position before the January 2019 Open Meeting.

27. Between January 2 and 14, 2019, additional comments were filed by SOLON Corporation, EFCA, WRA, TEP and UNSE (jointly), and AriSEIA.

28. On January 11, 2019, Staff filed its responses to the proposed amendments from the December 2018 Open Meeting.

29. At the Open Meeting on January 16, 2019, the Commission discussed the second Proposed Order and third revised draft of the DGI Rules at length; passed approximately 10 amendments to the third revised draft of the DGI Rules; and approved Staff's second Proposed Order, including the third revised draft of the DGI Rules, as amended.

30. On January 25, 2019, the Commission issued Decision No. 77056, directing Staff to file, by February 1, 2019, for publication in the *Arizona Administrative Register* by February 22, 2019, an NRDO and NPRM to initiate the formal rulemaking process for the DGI Rules as adopted at the Open Meeting on January 16, 2019. The Decision also required the Hearing Division to hold Oral Proceedings on March 28 and 29, 2019, in Tucson and Phoenix, respectively, and established other procedural requirements and dates. A typographical error in Decision No. 77056 was subsequently corrected *Nunc Pro Tunc* by Decision No. 77080 (February 7, 2019).[8]

[8] Staff's Proposed Order to correct Decision No. 77056 *Nunc Pro Tunc* was approved by the Commission at the Open Meeting of February 5 and 6, 2019.

31. On February 15, 2019, the NRDO and NPRM for the DGI Rules[9] were published in the *Arizona Administrative Register*, officially commencing the formal comment period for this rulemaking. The NPRM is attached hereto and incorporated herein as Exhibit A.

32. Between February 15 and March 28, 2019, comments on the DGI Rules were filed by the Alliance for Industrial Efficiency; Mandalay Communities, Inc. ("Mandalay"); Sonnen, Inc. ("Sonnen"); GCSECA; WRA; TEP and UNSE (jointly); SEIA; AriSEIA; Sunrun; and Tesla, Inc.

33. On March 15, 2019, Staff filed a draft Economic, Small Business, and Consumer Impact Statement ("EIS") for the DGI Rules.

34. On March 28, 2019, pursuant to A.R.S. § 41-1023, an Oral Proceeding was held at the Commission's offices in Tucson, Arizona, to allow adequate discussion of the substance and form of the DGI Rules and to allow persons to ask questions and present oral argument, data, and views on the DGI Rules. Before public comment was taken, Staff provided information concerning the rulemaking and responded to questions from the Administrative Law Judge ("ALJ") concerning possible minor modifications to the DGI Rules.[10] Public comment was then provided by Bruce Plenk, a TEP customer and solar consultant; Justin Orkney on behalf of TEP and UNSE; and Don McAdams, an energy service engineer for TEP. Mr. Plenk and Mr. Orkney both posed questions regarding the DGI Rules. At the conclusion of the proceeding, the ALJ posed a legal question for which Staff requested additional time to respond.[11]

35. On March 29, 2019, a second Oral Proceeding was held at the Commission's offices in Phoenix, Arizona. Staff again provided information concerning the rulemaking, after which public comment was taken. Public comment was provided by representatives for Mandalay, GCSECA, APS, and WRA. At the conclusion of the Oral Proceeding, the ALJ requested that Staff address two

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[9] Hereinafter, "DGI Rules" refers to the amended third revised draft of the DGI Rules approved by the Commission in Decision No. 77056 and published in the NPRM.

[10] The modifications were to remove redundant language in R14-2-2618(C)(2)(a), to add clarifying language at the beginning of R14-2-2620(A)(2), and to add hyphens after "UL 1741" in R14-2-2623(B)(1) and (C)(1).

[11] The ALJ asked whether, assuming the DGI Rules include a standard with a specified date, a utility's Interconnection Manual would be able to require compliance with a newer version of the standard, provided that the newer version of the standard is more stringent than the standard included in the DGI Rules. The ALJ also asked Staff generally to consider the extent to which a utility will be able to use a newer version of the standards that are adopted in the DGI Rules.

additional legal issues in its summary of comments and responses.[12] Additionally, Staff identified two corrections that it desired to make to the DGI Rules:

(a) In R14-2-2601, deleting the definition of a "QF" or "Qualifying Facility," because neither of the terms is used in the DGI Rules; and

(b) In R14-2-2620(E)(2)(c), changing the date of the IEEE 519 standard from June 11, 2011, to June 11, 2014, to correct a typographical error.

36. On April 5, 2019, Staff filed a summary of the written comments received on the NPRM, with Staff's responses to those comments. This document is attached hereto and incorporated herein as Exhibit B.

37. On April 26, 2019, Staff filed a summary of the oral comments received on the NPRM, with Staff's responses to those comments. This document is attached hereto and incorporated herein as Exhibit C.

38. On May 2, 2019, Staff filed a revised EIS.

39. On May 14, 2019, Staff filed Supplemental Comments of Staff to Oral Comments. This document is attached hereto and incorporated herein as Exhibit D.

40. At the Commission's Open Meeting on June 11, 2019, there was extensive discussion concerning a Recommended Opinion and Order issued in this docket on May 24, 2019, and a proposed amendment that would change the recommended definition of "Maximum Capacity." It was determined that the agenda item would be held for additional discussion and consideration at the Open Meeting on July 10 and 11, 2019.

Description of the Rulemaking

41. The DGI Rules would add a new Article 26, entitled "Interconnection of Distributed Generation Facilities" to 14 A.A.C. 2, the chapter containing the Commission's rules for fixed utilities, with the new Article 26 including 28 new rules. The DGI Rules would establish mandatory technical standards, processes, and timelines for utilities to use for interconnection and parallel operation of different types of DG facilities; customer and utility rights and responsibilities; provisions for

[12] The ALJ asked counsel for Staff to address the legal authority for R14-2-2628 and whether that rule is consistent with 7 CFR Part 1730, Subpart C.

disconnection of DG facilities from the distribution system; specific safety requirements; more flexible standards for electric cooperatives; a requirement for each utility to create, submit, and use a Commission-approved Interconnection Manual; a reporting requirement; and a provision regarding responsibility for damages from DG facilities operated at a higher capacity than reviewed and approved by the utility.

42. The DGI Rules include the following major differences from the Interconnection Document adopted in Decision No. 69674:

(a) They apply to all generating facilities operated in electrical parallel, regardless of maximum capacity,[13] that are interconnected with the distribution system of a utility subject to the Commission's jurisdiction;

(b) They do not prohibit "islandable systems";

(c) They address energy storage systems;

(d) They allow a customer to designate a representative to act on the customer's behalf regarding the interconnection and parallel operation process, to sign and submit documents electronically, to request a one-time 90-day extension from the utility with simple notice, and not to have an extension unreasonably withheld for circumstances beyond the customer's control;

(e) They rely upon the utility's Interconnection Manual to establish the codes, guides, and standards applicable to qualify generating facility equipment as certified equipment;

(f) Except when disconnection is done to make immediate distribution system repairs to prevent a danger, they require a utility to provide notice to a customer at least three days before disconnecting the customer's generating facility and to include in the notice the timing and estimated duration of the disconnection;

(g) They establish a process and timeline for restoring interconnection when a generating facility was disconnected for failure to meet technical requirements;

(h) They establish requirements for when there is a change of ownership of an interconnected generating facility;

[13] The Interconnection Document expressly applies only to generating facilities with power ratings of 10 MW or less.

(i) They eliminate the dispute resolution process required by the Interconnection Document;

(j) They increase the maximum capacity for inverter-based generating facilities eligible to use the Level 1 Super Fast Track process from 10 kW to 20 kW;

(k) They add a Supplemental Review process that must be offered by a utility and can be requested by an applicant when interconnection of a generating facility cannot be approved under the Level 1, 2, or 3 Tracks;

(l) They increase the flexibility of one Screen[14] for generating facilities, adapting it for higher capacity generating facilities, and include exceptions from three Screens for non-exporting systems and certain inadvertent export systems;

(m) They allow an applicant to request a Pre-Application Report from a utility and establish a process and timeline for completion of a Pre-Application Report;

(n) They establish timelines using calendar days rather than business days, deem an application incomplete rather than denied (and eliminate the requirement for an applicant to start over with a new application) if a generating facility design does not satisfy an applicable Screen for the Level 1 Track or does not meet the utility's Interconnection requirements, and allow an applicant to request an extension of the 30-day period to submit additional information to the utility if an application is deemed incomplete;

(o) They require a customer to submit to the utility a copy of final electrical clearance for the generating facility issued by the authority having jurisdiction, if required;

(p) They require a utility to verify compliance with specific requirements during a site inspection, if one is completed, rather than suggesting what the utility should verify;

(q) They impose a 30-day deadline after a failed site inspection for an applicant to correct any outstanding issues and provide notice of corrections to the utility, allow the utility a few additional days to complete reinspection, and eliminate the reinspection fee unless a utility has a Commission-approved tariff authorizing such a fee;

[14] The Screens, essentially technical and operational requirements, are identified in R14-2-2615.

(r) They eliminate the provision that operating a generator in parallel without utility approval may result in immediate termination of electric service;

(s) They allow a customer whose generating facility is processed under the Level 2 Fast Track or the Level 3 Study Track to modify the generating facility's operating characteristics, as agreed upon by the customer and utility, in order to reduce or eliminate improvements to the distribution system that would otherwise be necessary to accommodate interconnection;

(t) They standardize the timing requirements for Feasibility Studies, System Impact Studies, and Facilities Studies;

(u) They establish permanent standards and requirements for interconnection to secondary spot network systems, with a larger size limit for inverter-based units, replacing the pilot effort included in the Interconnection Document;

(v) They establish a new Expedited Interconnection Process for non-exporting or inadvertent export generating facilities that have a maximum capacity of 20 kW or less and meet specified requirements;

(w) They allow a utility to require a customer to install and maintain a disconnect switch that meets specified standards and to impose additional requirements for disconnect switches in the utility's Interconnection Manual;

(x) They establish advanced grid support features for generating facilities utilizing inverter-based technology;

(y) They allow proposed revisions to a utility's Interconnection Manual to go into effect immediately if made to enhance health or safety, although the revisions are subject to subsequent review and approval by the Commission; allow Staff to contest and seek suspension of a proposed revision to a utility's Interconnection Manual; and require a utility to file an updated Interconnection Manual with Docket Control within 10 days after the effective date of the decision approving the Interconnection Manual;

(z) They add fields of information to be included in a utility's annual Interconnection Report to be filed with the Commission;

(aa) They allow an electric cooperative's Commission-approved Interconnection

Manual to impose substitute timelines with which the cooperative must comply in lieu of complying with the timelines in R14-2-2614 and R14-2-2616 through R14-2-2623 and require an electric cooperative to employ best reasonable efforts to comply with the deadlines established in the applicable provisions of the DGI Rules; and

(bb) They place responsibility for loss of or damage to property arising from interconnection of a generating facility on the installer if the generating facility is inadvertently or intentionally operated at a higher capacity than the operating characteristics reviewed and approved by the utility.

Rationale for the Rulemaking

43. The DGI Rules are designed to fulfill the requirements of PURPA and EPACT 2005, as the ultimate culmination of the Commission's consideration and determination regarding the implementation of the 16 U.S.C. 2621(d)(15) standard for interconnection, because the DGI Rules establish standards and procedures concerning how regulated utilities must handle requests for interconnection and parallel operation of DG facilities. The DGI Rules build upon the Interconnection Document adopted in Decision No. 69674, and are designed to promote the three purposes of PURPA. In Decision No. 69674, the Commission found that having interconnection standards might facilitate the installation of DG, thus reducing the amount of energy to be supplied by electric utilities, and further found that the presence of DG might improve the efficiency of utility electric facilities and thus reduce costs for electric consumers.

44. According to Staff, DG systems provide benefits in the form of greater grid reliability, greater grid stability because of voltage support along transmission lines, increased system efficiency due to decreased transmission line losses, increased diversity of resources, decreased demand and cost pressures on natural gas and oil, and sustainability. Staff further stated that adoption of the DGI Rules, which would establish explicit and consistent standards and procedures for interconnection and parallel operation of DG facilities, should prevent increases in monetary and transaction costs for Commission-regulated utilities and their customers that can result from uncertainty.

45. Staff asserts that the DGI Rules would adopt standards that promote current best practices of DGI for utilities, utility distribution systems, utility customers, and customers' generating

facilities and would help to ensure the continued safe and reliable operation of the distribution systems while also enhancing long-term system planning.

46. The Commission finds that the Interconnection Document is insufficient to establish the standards and processes that the Commission considers necessary to adequately address DGI. The Commission finds that the adoption of rules for DGI is necessary to ensure that all utilities use DGI best practices for interconnection and that applicants for interconnection and parallel operation of DG facilities are subjected to the same technical standards, have their applications handled according to the same standardized processes and timelines based on the DG facilities for which interconnection is requested, and are required to pay only the costs authorized by the Commission's rules for DGI or in Commission-approved utility tariffs. The Commission finds that failure to adopt rules for DGI could increase the risk of unsafe interconnection and parallel operation of DG facilities, which could result in conditions posing a risk to people and property, particularly in light of the technological changes in and increased adoption of generating facilities.

Public Comment and Responses

47. Exhibits B, C, and D, attached hereto and incorporated herein, are Staff's summaries of the formal comments received and questions asked by public commenters regarding the NPRM, along with Staff's responses thereto.

48. Exhibit E, attached hereto and incorporated herein, is the Commission's summary of the formal comments received and questions asked regarding the NPRM, along with the Commission's responses thereto.

Authority for the DGI Rules Generally

49. The Commission possesses both constitutional and statutory authority to adopt the DGI Rules. In the NPRM, Staff cited the following authority: Arizona Constitution, Article 15, § 3 and A.R.S. §§ 40-202, 40-203, 40-321, 40-322(A), 40-332(B), 40-336, 40-361, and 40-374.

50. Article 15, § 3 of the Arizona Constitution provides, in pertinent part:

> The Corporation Commission shall have full power to, and shall, prescribe just and reasonable classifications to be used and just and reasonable rates and charges to be made and collected, by public service corporations within the State for service rendered therein, and make reasonable rules, regulations, and orders, by which such corporations shall be governed in the

> transaction of business within the State . . . and make and enforce reasonable rules, regulations, and orders for the convenience, comfort, and safety, and the preservation of the health, of the employees and patrons of such corporations. . . .

The Arizona Supreme Court has declared that this constitutional provision gives the Commission exclusive authority to establish rates and to enact rules that are reasonably necessary steps in ratemaking and, further, that deference must be given to the Commission's determination of what regulation is reasonably necessary for effective ratemaking.[15]

51. A.R.S. § 40-202 provides, in pertinent part:

> A. The commission may supervise and regulate every public service corporation in the state and do all things, whether specifically designated in this title or in addition thereto, necessary and convenient in the exercise of that power and jurisdiction. . . .
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> . . . .
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> C. In supervising and regulating public service corporations, the commission's authority is confirmed to adopt rules to:
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> 1. Protect the public against deceptive, unfair and abusive business practices, practices related to deposit requirements and reconnection fees, intrusive and abuse marketing, deceptive or untrue advertising practices and practices prohibited under subsection H of this section.
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> . . . .
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> L. A public service corporation shall comply with every order, decision, rule or regulation made by the commission in any matter relating to or affecting its business as a public service corporation and shall do everything necessary to secure compliance with and observance of every such order, decision, rule or regulation.[16]

52. A.R.S. § 40-203 states:

> When the commission finds that the rates, fares, tolls, rentals, charges or classifications, or any of them, demanded or collected by any public service corporation for any service, product or commodity, or in connection therewith, or that the rules, regulations, practices or contracts, are unjust, discriminatory or preferential, illegal or insufficient, the commission shall determine and prescribe them by order, as provided in this title.[17]

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[15] *Arizona Corporation Comm'n v. Woods*, 171 Ariz. 286, 294 (1992) ("*Woods*") (concluding that the Commission had the authority under its constitutional ratemaking power to enact its Affiliated Interest rules, because they are reasonably necessary for ratemaking, and giving deference to the Commission's determination of what regulation is reasonably necessary for effective ratemaking). Although by its plain language, Art. 15, § 3 also grants the Commission authority to regulate public service corporations in areas other than ratemaking, specifically authorizing the Commission to "make and enforce reasonable rules, regulations, and orders for the convenience, comfort, and safety, and the preservation of the health, of the employees and patrons of [public service] corporations," the Arizona Supreme Court has restricted that authority. (*See Arizona Corp. Comm'n v. Pacific Greyhound Lines*, 54 Ariz. 159 (1939) ("*Pacific Greyhound*") and its progeny.)

[16] The language of A.R.S. § 40-202(A), although very broad, has been interpreted by the Arizona Supreme Court as bestowing no additional powers on the Commission aside from those already granted by the Arizona Constitution or specifically granted elsewhere by the legislature, although the Court acknowledged that it also provides the Commission the authority to do those things necessary and convenient in the exercise of the powers so granted. (*Southern Pacific Co. v. Arizona Corp. Comm'n*, 98 Ariz. 339, 348 (1965).)

[17] A.R.S. § 40-203 (emphasis added).

53. A.R.S. § 40-321 states, in pertinent part:

> A. When the commission finds that the equipment, appliances, facilities or service of any public service corporation, or the methods of manufacture, distribution, transmission, storage or supply employed by it, are unjust, unreasonable, unsafe, improper, inadequate or insufficient, the commission shall determine what is just, reasonable, safe, proper, adequate or sufficient, and shall enforce its determination by order or regulation.
> B. The commission shall prescribe regulations for the performance of any service or the furnishing of any commodity, and upon proper demand and tender of rates, the public service corporation shall furnish the commodity or render the service within the time and upon the conditions prescribed.

54. A.R.S. § 40-322(A) states, in pertinent part:

> The commission may:
> 1. Ascertain and set just and reasonable standards, classifications, regulations, practices, measurements or service to be furnished and followed by public service corporations other than a railroad.
> 2. Ascertain and fix adequate and serviceable standards for the measurement of quantity, quality, pressure, initial voltage or other condition pertaining to the supply of the product, commodity or service furnished by such public service corporation.
> 3. Prescribe reasonable regulations for the examination and testing of the product, commodity or service and for the measurement thereof.

55. A.R.S. § 40-332(B) provides, in pertinent part:

> Every public service corporation shall allow every electricity supplier and self-generator of electricity access to electric transmission service and electric distribution service under rates and terms and conditions of service that are just and reasonable as determined and approved by regulatory agencies that have jurisdiction over electric transmission service and electric distributions service. . . .

56. A.R.S. § 40-336 provides:

> The commission may by order, rule or regulation, require every public service corporation to maintain and operate its line, plant, system, equipment, and premises in a manner which will promote and safeguard the health and safety of its employees, passengers, customers and the public, and may prescribe the installation, use, maintenance and operation of appropriate safety or other devices or appliances, including interlocking and other protective devices at grade crossings or junctions and block or other systems of signaling, establish uniform or other standards of equipment, and require the performance of any other act which health or safety requires.

57. A.R.S. § 40-361 provides:

> A. Charges demanded or received by a public service corporation for any commodity or service shall be just and reasonable. Every unjust or unreasonable charge demanded or received is prohibited and unlawful.
> B. Every public service corporation shall furnish and maintain such service, equipment and facilities as will promote the safety, health, comfort

> and convenience of its patrons, employees and the public, and as will be in all respects adequate, efficient and reasonable.
>
> C. All rules and regulations made by a public service corporation affecting or pertaining to its charges or service to the public shall be just and reasonable.

58. A.R.S. § 40-374 provides:

> Except as otherwise provided in this chapter, no public service corporation shall charge, demand, collect or receive a greater, less, or different compensation for transportation of persons or property, or for any product or commodity, or for any service rendered in connection therewith, than the rates, fares, tolls, rentals and charges applicable to such transportation or product, commodity or service specified in its schedule on file and in effect at the time, nor shall any public service corporation refund or remit, directly or indirectly, in any manner or by any device, any part of the rates, fares, tolls, rentals and charges so specified, nor extend to any person any form of contract, agreement, or any rule or regulation, or any facility or privilege, except such as are regularly and uniformly extended to all persons and except upon order of the commission.

59. The Commission also has both constitutional and statutory authority specifically with regard to requiring public service corporations to provide information, such as reports, to the Commission. Article 15, § 13 of the Arizona Constitution provides: "All public service corporations . . . shall make such reports to the Corporation Commission, under oath, and provide such information concerning their acts and operations as may be required by law, or by the Corporation Commission." Additionally, A.R.S. § 40-204 states, in pertinent part:

> A. Every public service corporation shall furnish to the commission, in the form and detail the commission prescribes, tabulations, computations, annual reports, monthly or periodical reports of earnings and expenses, and all other information required by it to carry into effect the provisions of this title and shall make specific answers to all questions submitted by the commission. If a corporation is unable to answer any question, it shall give a good and sufficient reason therefor.
>
> B. When required by the commission, a public service corporation shall deliver to the commission copies of any maps, profiles, contracts, franchises, books, papers and records in its possession, or in any way relating to its property or affecting its business, and also a complete inventory of all its property in the form the commission directs.

The Commission's authority extends to reports as to both past business activities and future plans.[18]

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[18] *Arizona Pub. Serv. Co. v. Arizona Corp. Comm'n*, 155 Ariz. 263 (App. 1987), *approved in part, vacated in part*, 157 Ariz. 532 (1988).

Authority for R14-2-2628

60. At the oral proceeding in Phoenix, the ALJ asked Staff to address the legal authority for R14-2-2628 and whether that rule is consistent with 7 CFR Part 1730, Subpart C.[19] As included in the DGI Rules, R14-2-2628 provides that "[t]he installer shall be responsible for loss of or damage to property arising from the Interconnection of a Generating Facility that is inadvertently or intentionally operated at a higher capacity than the Operating Characteristics reviewed and approved by the Utility." In Exhibit C, Staff asserted that R14-2-2628 is authorized under the same health and safety provisions in the Arizona Constitution and statutes cited in the NPRM as authority for the DGI Rules collectively. Staff also stated that to the extent there is any inconsistency between R14-2-2628 and 7 CFR Part 1730, Subpart C, it can be remedied through a utility's Interconnection Manual. In Exhibit D, Staff asserted that R14-2-2628 is authorized under the Commission's constitutional plenary ratemaking authority and likened R14-2-2628 to a limitation of liability provision, which Staff stated is common in utility practice and in Commission-approved utility tariffs. Staff also stated that R14-2-2628 is not inconsistent with 7 CFR Part 1730, Subpart C, which applies to U.S. Department of Agriculture Rural Utilities Service ("RUS") borrowers, and that utilities will be required to include this language in their Interconnection Manuals, which must be approved by the Commission. Staff acknowledged, however, that any action for damages or loss would be brought at superior court and that the court would determine the amount of any damage or loss.

61. While the Commission's exclusive and plenary constitutional ratemaking authority likely could be used to establish by rule that a utility's ratepayers, other than the owner of a generating facility at issue, shall be held harmless for the costs of any damages or loss arising from the interconnection of a generating facility that is inadvertently or intentionally operated at a higher

[19] 7 CFR Part 1730, Subpart C ("Subpart C") includes 7 CFR 1730.60 through 1730.100, applies to electric distribution utilities that borrow funds from RUS, and imposes requirements for those utilities to establish and maintain written standard policies for the Interconnection of Distributed Resources having an installed capacity of not more than 10 megavolt amperes at the point of common coupling"). (See 7 CFR § 1730.60.) *Inter alia*, Subpart C requires that an interconnection policy provide for a "Responsible Party" to assume specified risks and responsibilities, including agreeing "to maintain appropriate liability insurance as outlined in the borrower's interconnection policy" and being "responsible for the safe and effective operation and maintenance of the facility." (7 CFR § 1730.63(c)(1) and (3).) Subpart C defines "Responsible Party" to mean "the owner, operator or any other person or entity that is accountable to the borrower under the borrower's interconnection policy for Distributed Resources" and provides that "[o]nly Responsible Parties may apply for interconnection." (7 CFR §§ 1730.62, 1730.63(c)(4).)

capacity than the operating characteristics reviewed and approved by the utility,[20] the Commission's constitutional and statutory authority do not authorize the Commission to dictate the person who shall be held liable under those circumstances.[21] By attempting to do so, R14-2-2628 implicates separation of power concerns, as the determination of liability for a particular event can be established proactively by the legislature in the form of a statute, or retroactively by the court in the context of a lawsuit, but not by the Commission in the form of a rule.[22]

62. Additionally, R14-2-2628 is inconsistent with 7 CFR Part 1730, Subpart C, which attributes responsibility for compliance with operational and safety requirements (and for maintaining liability insurance) upon a "responsible party"—who must be either the owner, the operator, or another person accountable to the utility borrower under the utility borrower's interconnection policy. While there may be instances when an installer is also the owner or operator of a generating facility, or is accountable to a utility under the utility's Interconnection Manual, the Commission believes that this would be relatively uncommon. Thus, the Commission finds that R14-2-2628 is also inconsistent with 7 CFR Part 1730, Subpart C, with which RUS borrowers are required to comply. For these reasons, the Commission finds that it is appropriate to delete R14-2-2628 from the DGI Rules.

Adoption of Standards in the DGI Rules

63. In the DGI Rules, the Commission did not explicitly incorporate by reference IEEE 1547-2018 – IEEE Standard for Interconnection and Interoperability of Distributed Energy Resources with Associated Electric Power Systems Interfaces (April 6, 2018) ("IEEE 1547-2018"). The Commission chose instead to rely upon each utility's Interconnection Manual to require compliance with IEEE 1547-2018 for each inverter in an inverter-based generating facility. This approach was taken in response to concerns that IEEE 1547-2018 is currently under review by IEEE and will be revised within the foreseeable future. IEEE 1547-2018 is the standard for interconnection services referenced in the PURPA standard, 16 U.S.C. 2621(d)(15), which requires compliance with the current

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[20] *See, e.g., Arizona Corp. Comm'n v. State ex rel. Woods*, 171 Ariz. 286, 294, 297, 299 (1992).

[21] *See, e.g., Campbell v. Mountain States Tel. & Tel. Co.*, 120 Ariz. 426, 432 (Ariz. Ct. App. 1978); *City of Surprise v. Arizona Corp. Comm'n*, 246 Ariz. 206 at ¶ 20 (2019).

[22] *See, e.g., Corporation Comm'n v. Pacific Greyhound Lines*, 54 Ariz. 159, 176-77 (1939); *Trico Elec. Co-op. v. Ralston*, 67 Ariz. 358, 363-65 (1948); *U.S. West Communications, Inc. v. Arizona Corp. Comm'n*, 197 Ariz. 16, 23-25 (1999); *J.W. Hancock Enterprises, Inc. v. Arizona State Registrar of Contractors*, 142 Ariz. 400, 405-408 (Ariz. Ct. App. 1984); *Patchak v. Zinke*, 138 S.Ct. 897, 904-05 (2018); A.R.S. § 40-423; Decision No. 76893 (September 20, 2018) at 42.

version. While the Commission fully expects each utility's Interconnection Manual to include a requirement for compliance with IEEE 1547-2018, the enforcement of this expectation could be problematic if the Commission's rules do not explicitly include such a requirement.[23] Notably, the DGI Rules explicitly require compliance with specific versions of UL 1741 (February 15, 2018), IEEE 519 (June 11, 2014),[24] and IEEE 1453 (October 30, 2015). UL 1741 is currently subject to five UL Collaborative Standards Development System proposals for revision, dating from April 24, 2018, through March 14, 2019. Because each CSDS proposal is made by UL, the proponent of the standards, it is reasonable to expect revision of UL 1741 to occur within the foreseeable future as well. It will be necessary for the Commission to conduct another rulemaking to update the incorporation by reference of UL 1741 whenever such a revision is adopted by UL. Thus, even if the Commission were not explicitly to incorporate by reference IEEE 1547-2018, it is likely that the Commission will need to commence rulemaking within the foreseeable future to amend the DGI Rules. Because the Commission's ability to enforce the IEEE 1547-2018 standard could be challenged in the absence of an explicit incorporation by reference, and because the Commission is unlikely to avoid another rulemaking in the foreseeable future by avoiding incorporation by reference of IEEE 1547-2018, it is in the public interest to include an explicit incorporation by reference for IEEE 1547-2018.

Rulemaking Requirements

64. Arizona has had a general rulemaking moratorium in place since fiscal year 2009-2010, first through creation of the Arizona State Legislature and then through gubernatorial orders. The most recent gubernatorial order is Executive Order 2019-01 ("EO 2019-01"), effective on January 9, 2019. EO 2010-01 generally prohibits a state agency from conducting rulemaking except for specific purposes and with prior written approval from the Office of the Governor. However, EO 2019-01 expressly exempts the Commission from its applicability, although it encourages all exempted state officials and agencies to participate voluntarily within the context of their own rulemaking processes.

65. A.R.S. § 41-1057 exempts the Commission from having its rules reviewed by the Governor's Regulatory Review Counsel ("GRRC"), but requires the Commission to adopt substantially

[23] *See, e.g., Arizona State University ex rel. Arizona Bd. of Regents v. Arizona State Retirement System*, 237 Ariz. 246 (Ariz. Ct. App. 2015).

[24] The DGI Rules included a June 11, 2011, date as a typographical error.

similar rule review procedures, to include preparation of an EIS and a statement of the effect of the rule on small business.

66. A.R.S. § 41-1022 requires an agency to prepare and submit to the Secretary of State, for publication in the *Arizona Administrative Register*, a NPRM that includes the exact wording of the rules proposed for adoption. The statute also requires an agency to allow for and accept public comment on the NPRM as prescribed in A.R.S. § 41-1023.

67. A.R.S. § 41-1023 requires an agency to afford persons an opportunity to submit comments on the proposed rules for at least 30 days after publication of the NPRM and prohibits an agency from holding an oral proceeding on the NPRM earlier than 30 days after notice of the oral proceeding is published in the *Arizona Administrative Register*.

68. A.R.S. § 41-1024 requires an agency to consider the public comment received on the rules in a NPRM as well as the EIS and allows an agency to use its own experience, technical competence, specialized knowledge, and judgment in making a rule.

69. Under A.R.S. §§ 41-1022 and 41-1025, if an agency determines, as a result of public comments or internal review, that the agency must make a substantial change to any rule in the NPRM, the agency must prepare and file for publication in the *Arizona Administrative Register* a Notice of Supplemental Proposed Rulemaking containing the changes to the proposed rule, and must again provide for a public comment period as required by A.R.S. § 41-1023.

70. A.R.S. § 41-1025 requires consideration of the following to determine whether a change in a rule makes the rule substantially different from the published proposed rule:

> 1. The extent to which all persons affected by the rule should have understood that the published proposed rule would affect their interests.
> 2. The extent to which the subject matter of the rule or the issues determined by that rule are different from the subject matter or issues involved in the published proposed rule.
> 3. The extent to which the effects of the rule differ from the effects of the published proposed rule if it had been made instead.

71. A.R.S. § 41-1028 allows an agency to incorporate by reference in its rules, without reproducing the text of the incorporated matter in full, all or any part of a code, standard, rule, or regulation of a federal agency or a nationally recognized organization or association, if incorporation of the text in the agency's rules would be unduly cumbersome, expensive, or otherwise inexpedient.

The statute requires the agency's rules to identify the incorporated matter by location, date, and otherwise and to state that it does not include any later amendments or editions of the incorporated matter. Additionally, the statute expressly provides that an agency may incorporate later amendments or editions of the incorporated matter only through additional rulemaking.

72. A.R.S. § 41-1044 requires the Attorney General to review rules that are exempt under A.R.S. § 41-1057 and prohibits submission of a final rulemaking package for such rules to the Office of the Secretary of State unless first approved by the Attorney General.[25] Under A.R.S. § 41-1044, the Attorney General has 60 days to review the rules to determine whether the rules are (1) in appropriate form; (2) clear, concise, and understandable; (3) within the power of the agency to make and within the enacted legislative standard; and (4) made in compliance with the appropriate procedures. If the Attorney General determines that the rules meet the four criteria, the Attorney General endorses the final rulemaking package with approval and submits it to the Secretary of State for publication in the *Arizona Administrative Register*. The Attorney General is prohibited from approving a rule with an immediate effective date unless the Attorney General determines that the rule complies with A.R.S. § 41-1032.

73. Because this rulemaking is not being conducted wholly pursuant to the Commission's plenary and exclusive ratemaking authority under Art. 15, § 3, the Commission is required to obtain Attorney General certification of this rulemaking under A.R.S. § 41-1044.

Changes from the Proposed Rules

74. At the oral proceeding on March 28, 2019, Staff agreed that the rules would be more clear, concise, and understandable if the following changes were made:

(a) In R14-2-2618(C)(2)(a), deleting the language "or the Utility is notified within the specified time-frame,";

(b) At the beginning of R14-2-2620(A)(2), adding the language "If the Customer desires to proceed with the Application,"; and

[25] Commission rules that are promulgated wholly pursuant to the Commission's exclusive and plenary constitutional ratemaking authority are not subject to review and certification by the Attorney General under A.R.S. § 41-1044 before they may become effective. (*State ex rel. Corbin v. Arizona Corp. Comm'n*, 174 Ariz. 216 (Ariz. Ct. App. 1992); *US West Communications, Inc. v. Arizona Corp. Comm'n*, 197 Ariz. 16, 24 (Ariz. Ct. App. 1999); *Phelps Dodge Corp. v. Arizona Elec. Power Coop.*, 207 Ariz. 95 (Ariz. Ct. App. 2004).)

(c) In R14-2-2623(B)(1) and (C)(1), adding a hyphen after "UL 1741" when it appears.

75. At the oral proceeding on March 29, 2019, Staff identified the following changes that it desired to make to the DGI Rules:

(a) In R14-2-2601, delete the definition of "QF" or "Qualifying Facility" because neither term now appears in the DGI Rules; and

(b) In R14-2-2620(E)(2)(c), replace "2011" with "2014" to correct a clerical error.

76. As discussed in Findings of Fact Nos. 61 and 62, the Commission has determined that it is necessary to delete R14-2-2628 from the DGI Rules before moving forward to final rulemaking. Because this change constitutes a substantial change under A.R.S. §§ 41-1022 and 41-1025, the Commission must (1) prepare a Notice of Supplemental Proposed Rulemaking ("NSPRM"); (2) file the NSPRM with the Office of the Secretary of State for publication in the *Arizona Administrative Register*; and (3) afford another formal public comment period of at least 30 days, at the end of which the Commission will hold another oral proceeding in Phoenix.

77. Additionally, as discussed in Findings of Fact No. 63, the Commission has determined that it is necessary to add an incorporation by reference for IEEE 1547-2018, as the Commission desires to have transparency in the standards to be used for DGI and to ensure that compliance with that standard is enforceable. Although this will necessitate additional rulemaking in the future if and when the standard changes, the Commission believes that it is in the public interest to make this change, which is also a substantial change under A.R.S. §§ 41-1022 and 41-1025.

78. The Commission finds that it is in the public interest to make the changes to the DGI Rules described in Findings of Fact Nos. 74 through 77. Additionally, the Commission finds that it is in the public interest to make the following changes to the DGI Rules to make them more clear, concise, understandable, and effective:

(a) In R14-2-2601, the definition of "Maximum Capacity" was restructured to make it clearer, the definition of "Installer" was deleted, the definition of "Interconnection Manual" has been modified, and a definition for "RUS" has been added;

(b) In R14-2-2607, exception language has been added for cooperative utilities who obtain financing from RUS, and the rule has been restructured;

(c) In R14-2-2611(A)(1) and (2), R14-2-2614(E)(2), and R14-2-2623(B)(2) and (C)(2), the language used to refer to the codes and standards with which a Generating Facility must comply has been standardized;

(d) R14-2-2626(A) and (B) have been moved to a separate Section, which also:

(i) Moves substantive requirements from the definition of "Interconnection Manual" into the separate Section;

(ii) Requires each utility to revise its Interconnection Manual as necessary to conform to Good Utility Practice;

(iii) Requires each utility to submit its Interconnection Manual to the Commission for review and approval at least once every three years;

(iv) Requires a utility's Interconnection Manual to specify, either within its main text or in an appendix to the Interconnection Manual, the version of each standard with which an applicant's generating facility must comply to be eligible for interconnection and parallel operation; and

(v) Modifies the provisions from R14-2-2626(A) and (B) to make them more clear, concise, and understandable; and

(e) Minor stylistic changes or corrections to typographical errors have been made in the following:

(i) The definitions of "Disconnect Switch" and "Interconnection Agreement" in R14-2-2601;

(ii) R14-2-2603(D), (D)(2) and (3), and (E);

(iii) R14-2-2604(D)(2)(a)(i) through (vii);

(iv) R14-2-2613(I);

(v) R14-2-2614(A);

(vi) R14-2-2615(C) and (E);

(vii) R14-2-2617(C)(2)(b) and (G);

(viii) R14-2-2618(C)(2)(b) and (G);

(ix) R14-2-2619(C)(1)(b) and (E);

(x) R14-2-2620(E)(1)(c)(iii) and (F);

(xi) R14-2-2623(C)(4);

(xii) R14-2-2626(C); and

(xiii) R14-2-2627(A).

Resolution

79. The NSPRM for the DGI Rules, including the modifications described in Findings of Fact Nos. 74 through 78, is attached hereto and incorporated herein as Exhibit F.

80. The Commission finds that it is in the public interest to move forward with formal rulemaking in this matter as follows:

(a) Staff shall, by July 19, 2019, file the NSPRM with the Office of the Secretary of State for publication in the *Arizona Administrative Register* on August 9, 2019;

(b) Formal written comments on the NSPRM shall be accepted by the Commission from August 9, 2019, through September 13, 2019;

(c) The Hearing Division shall hold an oral proceeding on the NSPRM on September 13, 2019, at 10:00 a.m., or as soon as practicable thereafter, at the Commission's offices in Phoenix, Arizona;

(d) Staff shall, by 5:00 p.m. on September 23, 2019, file with the Commission's Docket Control a document including:

(i) A summary of all written and oral comments received concerning the NSPRM;

(ii) Staff's response to the written and oral comments received concerning the NSPRM; and

(iii) Staff's second revised EIS for the rulemaking or, if Staff believes that no revision to the revised EIS is necessary, Staff's statement to that effect; and

(e) The Hearing Division shall issue a Recommended Opinion and Order on the

NSPRM by October 8, 2019, for consideration at the Commission's Open Meeting on October 22 and 23, 2019.

CONCLUSIONS OF LAW

1. Pursuant to Arizona Constitution, Art. 15, §§ 3 and 13 and A.R.S. §§ 40-202 through 40-204, 40-321, 40-322, 40-332, 40-336, 40-361, and 40-374, the Commission has authority and jurisdiction to revise A.A.C. Title 14, Chapter 2 by adopting new rules for the interconnection and parallel operation of distributed generation in a new Article 26, as set forth in the NSPRM attached hereto as Exhibit F.

2. The NRDO and NPRM for this rulemaking were published in the *Arizona Administrative Register* on February 15, 2019, as required by A.R.S. §§ 41-1021 and 41-1022.

3. Notice of the oral proceeding regarding the NPRM was provided in the manner prescribed by law.

4. It is necessary and appropriate for the Commission to delete R14-2-2628, as published in the NPRM, from the rulemaking, and to make the other changes to the rules described in Findings of Fact Nos. 74 through 78.

5. Under A.R.S. §§ 41-1022 and 41-1025, the deletion of R14-2-2628 from the text of the rules as published in the NPRM is a substantial change that necessitates the filing of a NSPRM for publication in the *Arizona Administrative Register* and another public comment period in order for the Commission to move forward with rulemaking.

6. Under A.R.S. §§ 41-1022 and 41-1025, the addition of an explicit incorporation by reference of IEEE 1547-2018 is also a substantial change that necessitates the filing of a NSPRM for publication in the *Arizona Administrative Register* and another public comment period in order for the Commission to move forward with rulemaking.

7. The rules set forth for A.A.C. Title 14, Chapter 2, Article 26 in the NSPRM attached hereto as Exhibit F are clear, concise, and understandable; within the Commission's power to make; and within enacted legislative standards.

8. It is in the public interest to file with the Office of the Secretary of State, for publication in the *Arizona Administrative Register*, the NSPRM attached hereto, in accordance with the schedule

described in Findings of Fact No. 80.

9. The Commission will be required to submit this rulemaking to the Office of the Attorney General for certification under A.R.S. § 41-1044.

ORDER

IT IS THEREFORE ORDERED that the Commission's Utilities Division/Legal Division shall, by July 19, 2019, file the NSPRM with the Office of the Secretary of State for publication in the *Arizona Administrative Register* on August 9, 2019.

IT IS FURTHER ORDERED that the Commission shall accept formal written comments on the NSPRM from August 9, 2019, through September 13, 2019.

IT IS FURTHER ORDERED that the Commission's Hearing Division shall hold an oral proceeding on the NSPRM on September 13, 2019, at 10:00 a.m., or as soon as practicable thereafter, at the Commission's offices in Phoenix, Arizona, to receive formal oral comments on the NSPRM.

IT IS FURTHER ORDERED that the Commission's Utilities Division/Legal Division shall, by 5:00 p.m. on September 23, 2019, file with the Commission's Docket Control a document including:

1. A summary of all formal written and oral comments received concerning the NSPRM;

2. Staff's response to the formal written and oral comments received concerning the NSPRM; and

3. Staff's second revised EIS for the rulemaking or, if Staff believes that no revision to the revised EIS is necessary, Staff's statement to that effect.

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IT IS FURTHER ORDERED that the Commission's Hearing Division shall issue a Recommended Opinion and Order on the NSPRM by October 8, 2019, for consideration at the Commission's Open Meeting on October 22 and 23, 2019.

IT IS FURTHER ORDERED that this Decision shall become effective immediately.

BY ORDER OF THE ARIZONA CORPORATION COMMISSION.

CHAIRMAN BURNS COMMISSIONER DUNN COMMISSIONER KENNEDY

COMMISSIONER OLSON COMMISSIONER MARQUEZ PETERSON

IN WITNESS WHEREOF, I, MATTHEW J. NEUBERT, Executive Director of the Arizona Corporation Commission, have hereunto set my hand and caused the official seal of the Commission to be affixed at the Capitol, in the City of Phoenix, this 19th day of July 2019.

MATTHEW J. NEUBERT
EXECUTIVE DIRECTOR

DISSENT _____

DISSENT _____
SNH/gb

SERVICE LIST FOR: ARIZONA CORPORATION COMMISSION RULEMAKING

DOCKET NO.: RE-00000A-07-0609

Not applicable

NOTICE OF PROPOSED RULEMAKING

TITLE 14. PUBLIC SERVICE CORPORATIONS; CORPORATIONS AND ASSOCIATIONS; SECURITIES REGULATION

CHAPTER 2. CORPORATION COMMISSION - FIXED UTILITIES

[R19-16]

PREAMBLE

1. Article, Part, or Section Affected (as applicable) — **Rulemaking Action**

Article 26	New Article
R14-2-2601	New Section
R14-2-2602	New Section
R14-2-2603	New Section
R14-2-2604	New Section
R14-2-2605	New Section
R14-2-2606	New Section
R14-2-2607	New Section
R14-2-2608	New Section
R14-2-2609	New Section
R14-2-2610	New Section
R14-2-2611	New Section
R14-2-2612	New Section
R14-2-2613	New Section
R14-2-2614	New Section
R14-2-2615	New Section
R14-2-2616	New Section
R14-2-2617	New Section
R14-2-2618	New Section
R14-2-2619	New Section
R14-2-2620	New Section
R14-2-2621	New Section
R14-2-2622	New Section
R14-2-2623	New Section
R14-2-2624	New Section
R14-2-2625	New Section
R14-2-2626	New Section
R14-2-2627	New Section
R14-2-2628	New Section

2. Citations to the agency's statutory rulemaking authority to include the authorizing statute (general) and the implementing statute (specific):

Authorizing statute: Arizona Constitution Article XV, § 3; A.R.S. §§ 40-202, 40-203, 40-321, 40-322(A), 40-332(B), 40-336, 40-361, and 40-374.

Implementing statute: Arizona Constitution Article XV, § 3; A.R.S. §§ 40-202, 40-20340-321, 40-322(A), 40-332(B), 40-336, 40-361, and 40-374.

3. Citations to all related notices published in the *Register* as specified in R1-1-409(A) that pertain to the record of the proposed rule:

Notice of Rulemaking Docket Opening: 25 A.A.R. 376, February 15, 2019 (*in this issue*)

4. The agency's contact person who can answer questions about the rulemaking:

Name: Wesley Van Cleve, Legal Division Assistant Director

Address: Arizona Corporation Commission
Legal Division
1200 W. Washington St.
Phoenix, AZ 85007

Telephone: (602) 542-3402

Fax: (602) 542-4780

E-mail: Wvancleve@azcc.gov

Web site: www.azcc.gov

Name: Patrick LaMere, Executive Consultant
Address: Arizona Corporation Commission
Utilities Division
1200 W. Washington St.
Phoenix, AZ 85007
Telephone: (602) 542-4382
E-mail: PLaMere@azcc.gov

5. An agency's justification and reason why a rule should be made, amended, repealed or renumbered, to include an explanation about the rulemaking:

Commission Decision No. 67744 (April 7, 2005) directed Arizona Corporation Commission ("Commission") Staff to schedule workshops to consider outstanding issues affecting distributed generation. In addition, the Energy Policy Act of 2005 requires each state regulatory authority to consider adopting a Public Utility Regulatory Policies Act of 1978 ("PURPA") standard on interconnection. The standard is as follows:

> Each electric utility shall make available, upon request, interconnection service to any electric consumer that the electric utility serves. For purposes of this paragraph, the term "interconnection service" means service to an electric consumer under which an on-site generating facility on the consumer's premises shall be connected to the local distribution facilities. Interconnection services shall be offered based upon the standards developed by the Institute of Electrical and Electronics Engineers: IEEE Standard 1547 for Interconnecting Distributed Resources with Electric Power Systems, as they may be amended from time to time. In addition, agreements and procedures shall be established whereby the services are offered [sic] shall promote current best practices of interconnection for distributed generation, including but not limited to practices stipulated in model codes adopted by associations of state regulatory agencies. All such agreements and procedures shall be just and reasonable, and not unduly discriminatory or preferential. 16 U.S.C. § 2621(15).

The Commission is required to consider the three purposes of PURPA in its determination of whether to adopt the interconnection standard. These include:

a) Conservation of energy supplied by electric utilities;
b) Optimal efficiency of electric utility facilities and resources; and
c) Equitable rates for electric consumers.

Commission Decision No. 69674 (June 28, 2007) contained an Interconnection Document that was developed as a result of workshops involving participants representing utilities, government agencies, energy efficiency and environmental advocacy groups, utility investors, large industrial consumers, advocates for renewable resources, competitive power providers, advocates for distributed generation, product suppliers, research entities, and others. Decision No. 69674 ordered Staff to begin a rulemaking process to convert the Interconnection Document into rules.

The proposed rules are consistent with the PURPA interconnection standard because they establish standards and procedures concerning how regulated utilities will handle requests for interconnection and parallel operation of distributed generation facilities. State regulators have jurisdiction over retail activities and intrastate commerce, which generally involves distribution-level interconnections. Generally, distributed generation involves small-scale power generation units strategically located near customers and load centers. The benefits of distributed energy systems include: greater grid reliability; increased grid stability (voltage support along transmission lines); increased system efficiency (reduction in transmission line losses); increased diversity of resources; decreased pressure on natural gas and oil (demand and cost); and sustainable installations. The lack of a consistent standard that explicitly establishes procedures for interconnection and parallel operation of distributed generation facilities can increase both monetary and transaction costs for Commission-regulated utilities and its customers.

The Arizona Corporation Commission is responsible for holding the regulated utility accountable for general public health and safety. The proposed rules outline technical standards that promote current best practices of interconnection for distributed generation for the Utility, its distribution system, its customers and its customers' generating facilities. This helps ensure the continued safe and reliable operation of the distribution system and enhances long term system planning.

6. A reference to any study relevant to the rule that the agency reviewed and proposes either to rely on or not to rely on in its evaluation of or justification for the rule, where the public may obtain or review each study, all data underlying each study, and any analysis of each study and other supporting material:

Not applicable

7. A showing of good cause why the rulemaking is necessary to promote a statewide interest if the rulemaking will diminish a previous grant of authority of a political subdivision of this state:

Not applicable

8. The preliminary summary of the economic, small business, and consumer impact:

On January 25, 2019, in Decision No. 77056, the Commission directed the Utilities Division Staff ("Staff") to proceed with the proposed rules In the Matter of Interconnection of Distributed Generation Facilities. The parties affected by the proposed rules include:

a) Regulated utilities providing electric utility service;
b) Customers of electric service provided by regulated utilities in Arizona;
c) Entities engaging in commerce directly related to distributed generation technology and services;
d) The Arizona Corporation Commission; and
e) The general public, as it relates to health and safety.

The exact costs to regulated utilities to meet the requirements of the rules will vary over time. Each regulated utility is required to

follow timelines outlined in the proposed rulemaking and to file an annual report with the Commission on its capability to meet those timelines. A regulated utility can impose commission-approved tariffs on its customers that are reasonable and prudent for purposes of complying with the proposed rulemaking. The costs to customers will vary over time and will directly follow the costs to the regulated utility, which are expected to be passed through to customers.

A consistent standard that explicitly establishes procedures for interconnection and parallel operation of distributed generation facilities can increase investment certainty for Arizona commerce and for Commission-regulated utilities and their customers.

The Commission will incur an upfront cost for purchasing three references used in the proposed rulemaking.

The general public will receive a significant but unquantifiable benefit from the enhanced safety that is expected to result from the utilities' compliance with the standards in the rules.

9. The agency's contact person who can answer questions about the economic, small business and consumer impact statement:

Name: Patrick LaMere
Address: Arizona Corporation Commission
1200 W. Washington St.
Phoenix, AZ 85007
Telephone: (602) 542-4382
E-mail: PLaMere@azcc.gov
Web site: www.azcc.gov

10. The time, place, and nature of the proceedings to make, amend, repeal, or renumber the rule, or if no proceeding is scheduled, where, when, and how persons may request an oral proceeding on the proposed rule:

The Commission has scheduled two oral proceedings for public comments:

Tucson
Date: March 28, 2019
Time: 10:00 a.m.
Location: Room 222
400 W. Congress St.
Tucson, AZ 85701

Phoenix
Date: March 29, 2019
Time: 10:00 a.m.
Location: Arizona Corporation Commission
Hearing Room No. 1
1200 W. Washington St.
Phoenix, AZ 85007

Nature: Oral Proceedings

Interested persons can submit written comments to the proposed rulemaking to the Commission's Docket Control at 1200 W. Washington St., Phoenix, AZ 85007. Please reference Docket No. RE-00000A-07-0609, on all documents. The Commission requests that initial written comments be filed by March 24, 2019, and that written comments in response to other interested persons' comments be filed by March 28, 2019. Oral comments may be provided at the proceedings to be held on March 28 and 29, 2019.

11. All agencies shall list other matters prescribed by statute applicable to the specific agency or to any specific rule or class of rules. Additionally, an agency subject to Council review under A.R.S. §§ 41-1052 and 41-1055 shall respond to the following questions:

Not applicable

a. Whether the rule requires a permit, whether a general permit is used and if not, the reasons why a general permit is not used:

Not applicable

b. Whether a federal law is applicable to the subject of the rule, whether the rule is more stringent than federal law and if so, citation to the statutory authority to exceed the requirements of federal law:

Not applicable

c. Whether a person submitted an analysis to the agency that compares the rule's impact of the competitiveness of business in this state to the impact on business in other states:

Not applicable

12. A list of any incorporated by reference material as specified in A.R.S. § 41-1028 and its location in the rules:

R14-2-2601(41): 18 CFR 292.203 (April 1, 2018).

R14-2-2601(47): Underwriters Laboratories Inc. Standard for Inverters, Converters, Controllers and Interconnection System Equipment for Use with Distributed Energy Resources (February 15, 2018).

R14-2-2620(E)(2)(b): IEEE 1453, IEEE Recommended Practice for the Analysis of Fluctuating Installations on Power Systems (October 30, 2015).

R14-2-2620(E)(2)(c): IEEE 519 limits, IEEE Recommended Practice and Requirements for Harmonic Control in Electric Power

Systems (June 11, 2011).

13. The full text of the rules follows:

TITLE 14. PUBLIC SERVICE CORPORATIONS; CORPORATIONS AND ASSOCIATIONS; SECURITIES REGULATION

CHAPTER 2. CORPORATION COMMISSION - FIXED UTILITIES

ARTICLE 26. INTERCONNECTION OF DISTRIBUTED GENERATION FACILITIES

Section

ARTICLE 26. INTERCONNECTION OF DISTRIBUTED GENERATION FACILITIES

R14-2-2601. Definitions

In this Article, unless otherwise specified:

1. "AC" means alternating current.
2. "Applicant" means a Customer or Representative who submits an Interconnection Application pursuant to this Article.
3. "Application" means the standard form or format for an Applicant to apply to a Utility for Interconnection of a Generating Facility with the Distribution System.
4. "Backfeed" means to energize a section of a Utility electric system with a Generating Facility.
5. "Calendar Day" means any day including Saturday, Sunday, or a Federal or State Holiday.
6. "Certified Equipment" means a specific generating and protective equipment system or systems certified as meeting the requirements in R14-2-2611 relating to testing, operation, safety, and reliability by an NRTL.
7. "Clearance" means documentation from a Utility stating that a line or equipment is disconnected from all known sources of power and tagged; that for safety purposes all proper precautionary measures have been taken; and that workers may proceed to inspect, test, and install ground on the circuit.
8. "CFR" means Code of Federal Regulations.
9. "Commission" means the Arizona Corporation Commission.
10. "Customer" means an electric consumer applying to connect a Generating Facility on the consumer's side of the Utility meter, whether an Exporting System, a Non-Exporting System, or an Inadvertent Export System.
11. "DC" means direct current.
12. "Disconnect Switch" means a device that:
    a. Is installed and maintained for a Generating Facility by the Customer;
    b. Is a visible-open, manual, gang-operated, load break disconnect device;

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c. Is capable of being locked in a visible open position by a standard Utility padlock that will completely isolate the Generating Facility from the Distribution System; and

d. If the voltage of the Generating Facility is over 500 volts, is capable of being grounded on the Utility side.

13. "Distributed Generation" means any type of Customer electrical generator, solid-state or static inverter, or Generating Facility interconnected with the Distribution System that either can be operated in electrical parallel with the Distribution System or can feed a Customer load that can also be fed by the Distribution System.

14. "Distribution System" means the infrastructure constructed, maintained, and operated by a Utility to deliver electric service at the distribution level (69 kV or less) to retail consumers.

15. "Electric Cooperative" means a Utility that is:

a. Not operated for profit;

b. Owned and controlled by its members; and

c. Operating as a public service company in this state.

16. "Exporting System" means any type of Generating Facility that is designed to regularly Backfeed the Distribution System.

17. "Facilities Study" means a comprehensive analysis of the actual construction needed to take place based on the outcome of a System Impact Study.

18. "Fault Current" means the level of current that can flow if a short circuit is applied to a voltage source.

19. "Feasibility Study" means a preliminary review of the potential impacts on the Distribution System that will result from a proposed Interconnection.

20. "Generating Facility" means all or part of a Customer's electrical generator(s), energy storage system(s), or any combination of electrical generator(s) and storage system(s), together with all inverter(s) and protective, safety, and associated equipment necessary to produce electric power at the Customer's facility; this includes solid-state or static inverters, induction machines, and synchronous machines.

21. "Good Utility Practice" means any of the practices, methods, and acts engaged in or approved by a significant portion of the electric industry during the relevant time period, or any of the practices, methods, and acts that, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with reliability, safety, and expedition. Good Utility Practice is not intended to be limited to the optimal practice, method, or act to the exclusion of all others, but rather to include practices, methods, or acts generally accepted in the region at the relevant time.

22. "IEEE" means the Institute of Electrical and Electronics Engineers, Inc.

23. "Inadvertent Export" means the unplanned, uncompensated transfer of electrical energy from a Generating Facility to the Distribution System across the Point of Interconnection.

24. "Installer" means an entity that installs a Generating Facility interconnected to a Utility's Distribution System.

25. "Interconnection" means the physical connection of a Generating Facility to the Distribution System.

26. "Interconnection Agreement" means an agreement, signed between the Utility and the Customer, covering the terms and conditions governing the Interconnection and operation of the Generating Facility with the Utility and including any appendices to the agreement.

27. "Interconnection Facilities" means the electrical wires, switches, and related equipment that are required, in addition to the facilities required to provide electric distribution service to a Customer, to allow Interconnection. Interconnection Facilities may be located on either side of the Point of Interconnection as appropriate to their purpose and design.

28. "Interconnection Manual" means a separate document developed and maintained by a Utility, made available on the Utility's web site, and approved by the Commission, which contains detailed technical, safety, and protection requirements necessary to interconnect a Generating Facility to the Distribution System.

29. "Interconnection Study" means a study that may be undertaken by a Utility (or a Utility-designated third party) in response to the Utility's receipt of a completed Application. An Interconnection Study may include:

a. A Feasibility Study;

b. A System Impact Study;

c. A Facilities Study; and

d. Any additional analysis required by the Utility.

30. "Islanding" means a condition in which a portion of the Distribution System is energized solely by one or more local electric power systems throughout the associated Point of Interconnection while that portion of the Distribution System is electrically separated from the rest of the Distribution System. Islanding can be either intentional (planned) or unintentional (unplanned).

31. "Jurisdictional Electric Inspection Agency" means the governmental authority having jurisdiction to inspect and approve the installation of a Generating Facility.

32. "kW" means kilowatt.

33. "Maximum Capacity" means the nameplate AC capacity of a Generating Facility. If the Operating Characteristics of the Generating Facility limit the power transferred across the Point of Interconnection to the Distribution System, only the power transferred across the Point of Interconnection to the Distribution System, not including Inadvertent Export, shall be declared as the Maximum Capacity of the Generating Facility.

34. "MW" means megawatt.

35. "Non-Exporting System" means a system in which there is no designed, regular export of power from the Generating Facility to the Distribution System.

36. "NRTL" means a Nationally Recognized Testing Laboratory recognized by the U.S. Occupational Safety and Health Administration.

37. "Operating Characteristics" means the mode of operation of a Generating Facility (Exporting System, Non-Exporting System, or Inadvertent Exporting System) that controls the amount of power delivered across the Point of Interconnection to the Distribution System.
38. "Parallel Operation" means the operation of a Generating Facility that is electrically interconnected to a bus common with the Distribution System, either on a momentary or continuous basis.
39. "Protective Functions" means the equipment, hardware, or software in a Generating Facility that protects against Unsafe Operating Conditions.
40. "Point of Interconnection" means the physical location where the Utility's service conductors are connected to the Customer's service conductors to allow Parallel Operation of the Generating Facility with the Distribution System.
41. "QF" or "Qualifying Facility" means any cogeneration or small power production facility that meets the criteria for size, fuel use, efficiency, and ownership set forth in 18 CFR 292.203 (April 1, 2018), with no future editions or amendments, which is incorporated by reference; on file with the Commission; and published by and available from the U.S. Government Publishing Office, 732 North Capitol Street, NW Washington, DC 20401-0001 and at https://www.gpo.gov/fdsys/.
42. "Relay" means an electric device that is designed to interpret input conditions in a prescribed manner and, after specified conditions are met, to respond and cause contact operation or similar abrupt change in associated electric control circuits.
43. "Representative" means an agent of the Customer who is designated by the Customer and is acting on the Customer's behalf.
44. "Scoping Meeting" means an initial review meeting between a Utility and a Customer or Representative during which a general overview of the proposed Generating Facility design is discussed, and the Utility provides general information on system conditions at the proposed Point of Interconnection.
45. "Secondary Spot Network System" means an AC power Distribution System meeting the criteria in R14-2-2622.
46. "System Impact Study" means a full engineering review of the impact on the Distribution System from a Generating Facility, including power flow, Utility system protective device coordination, generator protection schemes (if not Certified Equipment), stability, voltage fluctuations, frequency impacts, and short circuit study. A System Impact Study may consider total nameplate capacity of the Generating Facility.
47. "UL 1741" means the Underwriters Laboratories Inc. Standard for Inverters, Converters, Controllers and Interconnection System Equipment for Use with Distributed Energy Resources (February 15, 2018), with no future editions or amendments, which is incorporated by reference; on file with the Commission; and published by and available from Underwriters Laboratories Inc., 151 Eastern Avenue Bensenville, IL 60106-3072 and through https://standardscatalog.ul.com.
48. "UL 1741SA" means the approved supplemental amendment of UL 1741 that defines the manufacturing (including software) and product testing requirements for advanced inverters.
49. "Unsafe Operating Conditions" means conditions that, if left uncorrected, could result in any of the following:
    a. Harm to personnel;
    b. Damage to equipment;
    c. An adverse effect to the safe operation of the Distribution System; or
    d. Operation of the Generating Facility outside pre-established parameters required by the Interconnection Agreement.
50. "Utility" means an electric distribution company that constructs, operates, and maintains its Distribution System for the receipt and delivery of electricity and that is a public service corporation under Arizona Constitution, Article 15, § 2.

R14-2-2602. Applicability

These rules apply to a Generating Facility operating (or to be operated) in parallel with a Distribution System of a Utility, subject to Commission jurisdiction after the effective date of this Article.

R14-2-2603. Types of Generating Facilities

A. A Customer may operate a Generating Facility as an Exporting System, a Non-Exporting System, or an Inadvertent Export System.

B. An Applicant shall declare the Maximum Capacity of a Generating Facility in its Application.

C. If an Applicant claims a Generating Facility is a Non-Exporting System:
1. The Utility may require an independent third-party certification ensuring that the system meets the following standards:
    a. Is able to supply part or all of the Customer's load continuously or during a Utility power outage;
    b. Is sized such that the export of power is not possible or includes control functions to prevent the export of power; and
    c. Has control functions that are listed by an NRTL for the purpose as used and are also inspected and approved by the Customer's Jurisdictional Electric Inspection Agency; and
2. The Applicant shall ensure that the Generating Facility utilizes any combination of equipment, hardware, or software, as specified by the Utility in its Interconnection Manual, to prevent the transfer of electrical energy to the Distribution System.

D. If an Applicant claims a Generating Facility is an Inadvertent Export system that does not utilize only UL 1741 certified or UL 1741SA-listed grid support non-islanding inverters:
1. The Utility may require additional protective functions and equipment to detect Distribution System faults;
2. The amount of Inadvertent Export exported to the Distribution System shall be limited to the lesser of the following values:
    a. 50% of the Generating Facility's Maximum Capacity;
    b. 10% of the continuous conductor rating in watts at 0.9 power factor for the lowest rated feeder conductor upstream of the Generating Facility; or
    c. 500 kW; and
3. The expected frequency of inadvertent export events shall be less than two occurrences per 24-hour period.

E. If an Applicant claims a Generating Facility is an Inadvertent Export system that utilizes only UL 1741 certified or UL 1741SA-listed grid support non-islanding inverters, the Generating Facility shall:
1. Utilize control functions that limit the export of electrical power to the Distribution System;

2. Have a Maximum Capacity of 500 kVA or less;
3. Have a magnitude of Inadvertent Export no more than 100 kVA;
4. Have a duration of Inadvertent Export of power of less than 30 seconds for any single event;
5. Monitor that its total energy export per month is maintained to be no more than its Maximum Capacity multiplied by 0.1 hours per day over a rolling 30-day period (e.g., a 100 kVA gross nameplate capacity Generating Facility would have a maximum energy export per 30-day month of 300 kWh);
6. Disconnect the Generating Facility from the Distribution System in the event of an Inadvertent Export, ceasing to energize the Distribution System or halting energy production, within two seconds after the period of uninterrupted export exceeds 30 seconds or the magnitude of export exceeds 100 kVA; and
7. Enter a safe operation mode, where Inadvertent Export events cannot occur, upon failure of the control or inverter system for more than 30 seconds, whether from loss of control signal, loss of control power, or a single component failure or related control sensing of the control circuitry.

R14-2-2604. Customer Rights and Responsibilities

A. A Customer has the following rights:
1. To designate a Representative to act on the Customer's behalf;
2. To submit an Application to interconnect a Generating Facility with a Distribution System;
3. To expect prompt and professional responses from a Utility during the Interconnection process;
4. To expect detailed and itemized good faith estimates of cost from the Utility;
5. To expect outlines, supporting data, and justification for proposed work before the Utility undertakes any studies or system upgrades to accommodate the Generating Facility;
6. To sign documents using an electronic (e-signature) method if the Customer has the technical capability to sign electronically and is submitting the documents electronically; and
7. To request a one-time 90-day extension from the Utility using a simple notification process and not to have an extension unreasonably withheld for circumstances beyond the Customer's control.

B. A Customer shall ensure that:
1. The Generating Facility meets or exceeds all minimum Interconnection, safety, and protection requirements outlined in this Article and the Utility's Interconnection Manual;
2. The Generating Facility meets all applicable construction codes, safety codes, electric codes, laws, and requirements of government agencies having jurisdiction;
3. The Generating Facility's Certified Equipment is installed and operated in a manner that protects the Generating Facility, Utility personnel, the public, and the Distribution System from harm;
4. The Generating Facility design, installation, maintenance, and operation minimize the likelihood of causing a malfunction in, damaging, or otherwise impairing the Distribution System;
5. The Generating Facility does not adversely affect the quality of service to other Utility consumers;
6. The Generating Facility does not hamper efforts to restore a feeder to service when a Clearance is required;
7. The Generating Facility is maintained in accordance with applicable manufacturers' maintenance schedules; and
8. The Utility is notified of any emergency or hazardous condition or occurrence involving the Generating Facility that could affect safe operation of the Distribution System.

C. A Customer shall pay for; lease or own; and be responsible for designing, installing, and operating all Interconnection Facilities located on the Customer's side of the Point of Interconnection.

D. A Customer shall ensure that Interconnection Facilities:
1. Are located on the Customer's premises; and
2. To enable delivery of power from the Generating Facility to the Distribution System at the Point of Interconnection, include:
   a. Necessary equipment for:
      i. Connection;
      ii. Transformation;
      iii. Switching;
      iv. Protective relaying;
      v. Metering;
      vi. Communication; and
      vii. Safety requirements.
   b. A Disconnect Switch; and
   c. Any other requirements outlined in this Article or specified by the Utility in its Interconnection Manual.

E. A Customer interconnecting a Generating Facility with the Distribution System shall:
1. Sign an Interconnection Agreement and all other applicable purchase, supply, and standby agreements; and
2. Comply with all applicable tariffs, rate schedules, and Utility service requirements.

F. A Customer shall not interconnect or cause Interconnection of a Generating Facility to the Distribution System without first executing an Interconnection Agreement with the Utility that operates the Distribution System.

R14-2-2605. Utility Rights and Responsibilities

A. A Utility shall interconnect a Generating Facility to the Distribution System, subject to the requirements of this Article and of the Utility's Interconnection Manual.

B. A Utility has the right to expect prompt, reasonable, and professional responses from a Customer during the Interconnection process.

C. A Utility shall require that an interconnected Generating Facility:
1. Not present any hazards to Utility personnel, other Utility consumers, or the public;

2. Minimize the possibility of damage to the Utility and to other Utility consumers' equipment;
3. Not adversely affect the quality of service to other Utility consumers; and
4. Not hamper efforts to restore a feeder to service when a Clearance is required.

D. A Utility shall notify a Customer if there is reason to believe that operation of the Customer's Generating Facility has caused disruption or deterioration of service to other Utility consumers served from the Distribution System or that such operation has caused damage to the Distribution System.

E. A Utility shall make its Interconnection Manual, standard Application, and Interconnection Agreements readily available to an Applicant in print and online formats.

F. Following the receipt of an Application, a Utility shall review the Generating Facility to ensure it complies with the applicable screens in R14-2-2615. If the Generating Facility design does not comply with the applicable screens in R-14-2-2615, an Interconnection Study may be required. Before the Utility undertakes any Interconnection Study or system upgrades that will be charged to the Applicant, the Utility shall provide the Applicant a detailed estimate of the cost, an outline of the proposed work, supporting data, and justification for the proposed work. If the results of an Interconnection Study necessitate additional Interconnection Facilities or upgrades, the Utility shall provide written notice to the Applicant of the Utility's intent to install the Interconnection Facilities or upgrades. The Applicant shall pay the Utility for Interconnection Facilities or upgrades identified in the Interconnection Study except for those unrelated to the Generating Facility installation. The Utility shall provide the results of the Interconnection Study to the Applicant.

G. A Utility may not disapprove Interconnection of a Generating Facility that satisfies the requirements of this Article and the Utility's Interconnection Manual.

H. If additional Interconnection Facilities or upgrades are needed to accommodate a Generating Facility, and the Interconnection Facilities or upgrades will benefit the grid, the Utility shall reduce the charge of the Interconnection Facilities or upgrades to the Customer by the amount of benefits to the grid that are readily quantifiable by the Utility. A Utility shall not reject an Application on the basis of existing Distribution System conditions that are deficient, or charge a Customer for Interconnection Facilities or upgrades that are overdue or that will soon be required to ensure compliance with Good Utility Practice.

I. A Utility shall process each Application on a nondiscriminatory basis.

R14-2-2606. Easements and Rights-of-Way

A. Where an easement or right-of-way does not exist, but is required by a Utility to accommodate Interconnection, a Customer shall provide a suitable easement or right-of-way, in the Utility's name, on the premises owned, leased, or otherwise controlled by the Customer. If the required easement or right of way is on another's property, the Customer shall obtain and provide to the Utility a suitable easement or right-of-way, in the Utility's name, at the Customer's expense and in sufficient time to comply with Interconnection Agreement requirements.

B. A Utility shall use reasonable efforts to utilize existing easements to accommodate Interconnection.

C. A Utility shall use reasonable efforts to assist a Customer in securing necessary easements at the Customer's expense.

R14-2-2607. Insurance

A. A Utility shall not require a Customer to provide general liability insurance coverage as a condition for Interconnection and shall not require that the Customer negotiate any policy or renewal of any policy covering any liability through a particular insurance provider, agent, solicitor, or broker.

B. The provision in subsection (A) does not waive or otherwise foreclose any rights a Utility may have to pursue remedies at law against a Customer to recover damages.

R14-2-2608. Non-Circumvention

A. A Utility shall not directly or through an affiliate use knowledge of proposed Distributed Generation projects submitted to the Utility for Interconnection or study to initiate competing proposals to the Customer that offer discounted rates in return for not installing the Distributed Generation, or to offer the Customer competing Distributed Generation projects.

B. A Customer may share with a Utility or its affiliates information in the Customer's possession regarding a potential Distributed Generation project and may use such information to negotiate a discounted rate or other mutually beneficial arrangement with a Utility or its affiliate.

C. A Utility may inform a Customer of any existing or pending (awaiting approval by the Commission) rate schedule that may economically benefit, economically disadvantage, or otherwise affect the Customer's Distributed Generation project.

R14-2-2609. Designation of Contact Persons

A. Each Utility shall:
1. Designate a person or persons who will serve as the Utility's contact for all matters related to Distributed Generation Interconnection;
2. Identify to the Commission in its Interconnection Manual each designated Distributed Generation Interconnection contact person or persons; and
3. Provide convenient access through its website to the name, telephone number, mailing address, and email address for each Distributed Generation Interconnection contact person.

B. Each Applicant applying for Interconnection shall designate a contact person or persons and provide to the Utility the name, telephone number, mailing address, and email address for each contact person.

R14-2-2610. Minor Modifications

A Utility shall not reject or declare incomplete and require resubmission of a submitted Application if minor modifications must be made to the design of the Generating Facility or to other information on the Application (including ownership of Generating Facility) while the Application is being reviewed by the Utility or prior to completing the Interconnection of the Generating Facility.

R14-2-2611. Certification

A. To qualify as Certified Equipment, Generating Facility equipment proposed for use separately or packaged with other equipment in an Interconnection system shall:
   1. Comply with the applicable codes, guides, and standards referenced in the Utility Interconnection Manual;
   2. Comply with the relevant codes and standards used by an NRTL to test and certify Interconnection equipment; and
   3. Be labeled and publicly listed as certified by the NRTL at the time of Application submission.

B. If Certified Equipment includes only interface components (switchgear, inverters, or other interface devices), a Customer shall show, upon request from the Utility, that the Generating Facility is compatible with the interface components and consistent with the testing and listing specified for the Interconnection equipment.

C. A Customer is not required to ensure that equipment provided by the Utility is Certified Equipment.

R14-2-2612. No Additional Requirements

If a Generating Facility complies with all applicable requirements of R14-2-2611, complies with the screens listed in R14-2-2615, and complies with the Utility's Interconnection Manual, a Utility shall not require the Customer to install additional controls, or to perform or pay for additional tests, in order to obtain approval to interconnect, unless the Customer agrees to do so or the Commission so requires. A Utility may install additional equipment or perform additional testing at its own expense.

R14-2-2613. Disconnection from or Reconnection with the Distribution System

A. A Utility may disconnect a Generating Facility from the Distribution System under the following conditions:
   1. Upon expiration or termination of the Interconnection Agreement with a Customer, in accordance with the terms of the Interconnection Agreement;
   2. Upon determining that the Generating Facility is not in compliance with the technical requirements found within the Utility's Interconnection Manual;
   3. Upon determining that continued Interconnection of the Generating Facility will endanger system operations, persons, or property, for the time needed to make immediate repairs on the Distribution System;
   4. To perform routine maintenance, repairs, and system modifications; and
   5. Upon determining that an Interconnection Agreement is not in effect for the Generating Facility.

B. A Utility and a Customer shall cooperate to restore the Generating Facility and the Distribution System to their normal operating states as soon as practicable.

C. A Customer may temporarily disconnect the Generating Facility from the Distribution System at any time. Such temporary disconnection shall not constitute a termination of the Interconnection Agreement unless the Customer has so specified in writing.

D. Except in the case of a disconnection under subsection (A)(3), a Utility shall provide notice to a Customer before disconnecting the Generating Facility. The Utility shall provide the Customer notice at least three calendar days prior to the impending disconnection and shall include in the notice the date, time, and estimated duration of the disconnection.

E. When a Generating Facility is disconnected under subsection (A)(2):
   1. The Customer shall notify the Utility when the Generating Facility is restored to compliance with technical requirements;
   2. The Utility shall, within five calendar days after receiving the Customer's notice, have an inspector verify the compliance; and
   3. Upon verifying the compliance, the Utility shall, in coordination with the Customer, reconnect the Generating Facility.

F. A Utility shall reconnect a Generating Facility as quickly as practicable after determining that the reason for disconnection is remedied.

G. An Interconnection Agreement shall continue in effect after disconnection or termination of electric service to the extent and for the period necessary to allow or require the Utility or Customer to fulfill rights or obligations that arose under the agreement, notwithstanding subsection (H)(4). An Interconnection Agreement cannot be for a term less than the expected life of the Generating Facility, unless mutually agreed upon by the Customer and the Utility.

H. An Interconnection Agreement shall become effective on the effective date specified in the Interconnection Agreement and shall remain in effect thereafter unless and until:
   1. It is terminated by mutual agreement of the Utility and Customer;
   2. It is replaced by another Interconnection Agreement, with mutual consent of the Utility and Customer;
   3. It is terminated by the Utility or the Customer due to a breach or default of the Interconnection Agreement; or
   4. The Customer terminates Utility electric service, vacates or abandons the property on which the Generating Facility is located, or terminates or abandons the Generating Facility, without the Utility's agreement.

I. An Interconnection Agreement shall not be terminated in the event of the sale or lease of the property owned by the Customer. If the ownership of a Generating Facility changes, the Interconnection Agreement will remain in effect so long as the operation, as specified in the Interconnection Agreement, of the Generating Facility remains unchanged. The Customer shall provide notice to the Utility within seven calendar days in the event of a change in the ownership of the Generating Facility.

J. Upon termination of an Interconnection Agreement:
   1. The Customer shall ensure that the electrical conductors connecting the Generating Facility to the Distribution System are immediately lifted and permanently removed, to preclude any possibility of interconnected operation in the future; and
   2. The Utility may inspect the Generating Facility to verify that it is permanently disconnected.

R14-2-2614. Application and Generating Facility General Requirements

A. A Customer desiring to interconnect a Generating Facility to the Distribution System that is not a Non-Exporting inverter-based energy storage Generating Facility or an Inadvertent Export Generating Facility with a Maximum Capacity of 20 kW or less shall apply to the Utility for Interconnection as provided in this Section.

B. An Applicant shall submit an Application on a form provided by the Utility, or according to a format provided by the Utility, along with the following:

1. All supplemental information and documents required by the Utility, which shall be noted on the Utility's Application or Application instructions;
2. An executed Interconnection Agreement, if required by the Utility; and
3. An initial Application or processing fee, if a tariff containing such a fee is approved for the Utility by the Commission.

C. Upon request, a Utility shall provide an Applicant with sample diagrams that indicate the preferred level of detail and type of information required for a typical inverter-based system.

D. Within seven calendar days after receiving an Application, a Utility shall review the Application and provide the Applicant notice:
1. That the Application satisfies all requirements under subsection (B); or
2. That the Application does not satisfy one or more requirements under subsection (B), in which case:
   a. The Utility shall specify the additional information or documents required;
   b. The Applicant shall submit the specified information or documents; and
   c. The Application may be deemed withdrawn if the Applicant does not submit the required information or documents within 30 calendar days.

E. A Generating Facility shall comply with the following general requirements:
1. If inverter based, each inverter shall meet the relevant standards as specified by the Utility in its Interconnection Manual;
2. The Generating Facility shall meet all applicable codes and standards; and
3. The Generating Facility shall comply with the Utility's Interconnection Manual and Interconnection Agreement requirements.

R14-2-2615. Screens

A. For Interconnection of a proposed Generating Facility to a distribution circuit, the aggregated generation on the circuit, including the proposed Generating Facility, shall not exceed 15% of the total circuit annual peak load as most recently measured at the substation or on the line section (if available), or the circuit hosting capacity limit; whichever is greater. Non-Exporting Systems, regardless of system size, and Inadvertent Export systems with a Maximum Capacity of 20 kW and under shall not be subject to this subsection.

B. A proposed Generating Facility shall not contribute more than 10% to a distribution circuit's maximum fault current at any point on the Distribution System, including during normal contingency conditions that may occur due to reconfiguration of the feeder or the distribution substation.

C. The proposed Maximum Capacity of a Generating Facility, in aggregate with the Maximum Capacity of other generation on a distribution circuit, shall not cause any distribution protective devices and equipment (including but not limited to substation breakers, fuse cutouts, and line reclosers), or consumer equipment on the system, to exceed 90% of the short circuit interrupting capability; and Interconnection shall not be proposed for a circuit that already exceeds 90% of the short circuit interrupting capability.

D. A proposed Generating Facility shall be interconnected to the Distribution System as shown in the table below:

Primary Distribution Line Configuration	Interconnection to Primary Distribution Line
Three-phase, three wire	If a three-phase or single-phase Generating Facility, Interconnection shall be phase-to-phase
Three-phase, four wire	If a three-phase (effectively grounded) or single-phase Generating Facility, Interconnection shall be line-to-neutral

E. If a proposed Generating Facility is to be interconnected on single-phase shared secondary, the aggregate generation capacity on the shared secondary, including the proposed Maximum Capacity of the Generating Facility, shall not exceed 75% of the service transformer rating. Non-Exporting Systems and Inadvertent Export shall not be subject to this subsection.

F. If a proposed Generating Facility is single-phase and is to be interconnected on a transformer center tap neutral of a 240-volt service, its addition shall not create an imbalance between the two sides of the 240-volt service of more than 20% of the nameplate rating of the service transformer.

G. A proposed Generating Facility, in aggregate with other generation interconnected to the distribution low-voltage side of a substation transformer feeding the distribution circuit where the Generating Facility would interconnect, shall not exceed 10 MW in an area where there are known or posted transient stability limitations to generating units located in the general electrical vicinity (e.g., three or four transmission voltage level busses from the Point of Interconnection). Non-Exporting Systems, regardless of system size, and Inadvertent Export systems with a Maximum Capacity of 20 kW and under shall not be subject to this subsection.

H. A proposed Generating Facility's Point of Interconnection shall not be on a transmission line.

I. A proposed Generating Facility shall not exceed the capacity of the Customer's existing electrical service unless there is a simultaneous request for an upgrade to the Customer's electrical service or the Generating Facility is configured never to inject onto the feeder power that exceeds the capacity of the electrical service.

J. If a proposed Generating Facility is non-inverter based, the Generating Facility must comply with the Protective Function requirements and any additional Utility Interconnection requirements, which shall be specified by the Utility in its Interconnection Manual.

R14-2-2616. Pre-Application Report

A. An Applicant requesting a Pre-Application Report shall submit to a Utility:
1. The Applicant's contact information (name, address, phone, and email);
2. A proposed Point of Interconnection, sufficiently identified by latitude and longitude, site map, street address, meter number, account number, or some combination of those sufficient to identify the location of the Point of Interconnection;
3. A description of the proposed generation technology and fuel source; and
4. A non-refundable processing fee, if a tariff containing such a fee is approved for the Utility by the Commission.

B. An Applicant requesting a Pre-Application Report shall understand that:

1. The existence of "available capacity" does not mean that the Interconnection of a Generating Facility with a nameplate capacity that is equivalent to the available capacity may be completed without impacts, because the Pre-Application Report does not address all of the variables studied as part of the Interconnection review process;
2. The Distribution System is dynamic and subject to change; and
3. Data provided in the Pre-Application Report may become outdated and may not be useful at the time an Application is submitted.

C. Within 21 calendar days of receipt of a completed Pre-Application Report request, a Utility shall provide a Pre-Application Report, which shall include the following information, as available:
1. The total capacity (MW) of the substation/area bus or bank and circuit likely to serve the proposed site;
2. The allocated capacity (MW) of the substation/area bus or bank and circuit likely to serve the proposed site;
3. The queued capacity (MW) of the substation/area bus or bank and circuit likely to serve the proposed site;
4. The available capacity (MW) of the substation/area bus or bank and circuit most likely to serve the proposed site;
5. Whether the proposed Generating Facility is located on an area, spot, or radial network;
6. The substation nominal distribution voltage or nominal transmission voltage, if applicable;
7. The nominal distribution circuit voltage at the proposed site;
8. The approximate circuit distance between the proposed site and the substation;
9. The peak load estimate and minimum load data of each relevant line section, when available;
10. The number of protective devices and voltage regulating devices between the proposed site and the substation/area;
11. Whether three-phase power is available at the site and, if not, the distance of the site from three-phase service;
12. The limiting conductor rating from the proposed Point of Interconnection to the distribution substation; and
13. Based on the proposed Point of Interconnection, any existing or known constraints, such as, but not limited to, electrical dependencies at that location, short circuit interrupting capacity issues, power quality or stability issues on the circuit, capacity constraints, or secondary networks.

D. A Utility shall not be required to generate data for a Pre-Application Report and may include only pre-existing data. An Applicant request for a Pre-Application Report does not obligate the Utility to conduct a study or other analysis of the proposed project in the event that pre-existing data is not available. If a Utility cannot complete all or some of a Pre-Application Report due to lack of available data, the Utility shall provide the Applicant a Pre-Application Report that includes the information that is available and identifies the information that is unavailable. Notwithstanding any provisions of this Section, a Utility shall, in good faith, provide Pre-Application Report data that represents the best available information at the time of reporting.

E. A Utility may charge a fee for a Pre-Application Report if a tariff containing such a fee is approved for the Utility by the Commission.

R14-2-2617. Level 1 Super Fast Track

A. A Customer interconnecting an inverter-based Generating Facility with a Maximum Capacity of 20 kW or less, which only uses Certified Equipment, shall apply for Interconnection under the Level 1 Super Fast Track Application process.

B. To qualify for Level 1 Super Fast Track, the Generating Facility shall comply with R14-2-2615(A), (E), and (F).

C. The Level 1 Super Fast Track shall proceed as follows:
1. Within 14 calendar days following provision of notice under R14-2-2614(D)(1), the Utility shall review the Application and notify the Applicant of one of the following determinations:
   a. The Generating Facility design satisfies R14-2-2615(A), (E), and (F) and meets all Interconnection requirements and the Application is therefore deemed complete and approved for Interconnection; or
   b. The Generating Facility design does not satisfy one or more of the requirements listed in R14-2-2615(A), (E), or (F) or does not meet one or more of the Utility's Interconnection requirements, which shall be specified, and the Application is therefore deemed incomplete and not approved for Interconnection.
2. If the Utility's determination falls under subsection (C)(1)(b), the Applicant shall notify the Utility within 30 calendar days whether it wishes to proceed with the Interconnection.
   a. Except as provided in subsection (D), if the Applicant does not provide notice within 30 calendar days that it wishes to proceed with the Interconnection, the Application may be considered withdrawn.
   b. If the Applicant wishes to proceed with the Interconnection, the Applicant shall submit to the Utility' within 30 calendar days, any Utility-specified additional information or modifications to the Generating Facility, along with one of the following:
      i. A request that the Utility continue to process the Application under this section; or
      ii. A request that the Utility process the Application in accordance with R14-2-2620.
3. Once an Application is approved, the Generating Facility shall be subject to R14-2-2621.

D. An Applicant may, within 30 calendar days after receiving notice under subsection (C)(1)(b), submit a request for an extension of the 30-day period allowed for submissions under subsection (C)(2)(b).

E. After receiving a submission under subsection (C)(2)(b), a Utility shall again follow the process of subsection (C).

F. A Utility may not charge a fee for an additional review under subsection (C), unless a tariff containing such a fee is approved for the Utility by the Commission.

G. A Customer shall have the responsibility for any costs of Utility facilities and equipment modifications necessary to accommodate the Customer's Interconnection.

H. If the Generating Facility's operating characteristics can be modified such that improvements to the Distribution System are reduced or not required, and both the Utility and Customer agree on the operating characteristics, the Customer shall have the opportunity to modify the Generating Facility's operating characteristics to reduce facility costs.

R14-2-2618. Level 2 Fast Track

A. A Customer interconnecting a Generating Facility with a Maximum Capacity of less than 2 MW, excluding a Generating Facility processed in accordance with R14-2-2617, shall apply for Interconnection under the Level 2 Fast Track Application process.

B. To qualify for the Level 2 Fast Track, the Generating Facility shall comply with R14-2-2615(A) through (J).
C. The Level 2 Fast Track shall proceed as follows:
1. Within 21 calendar days following provision of notice under R14-2-2614(D)(1), the Utility shall review the Application and notify the Applicant of one of the following determinations:
a. The Generating Facility design satisfies R14-2-2615(A) through (J) and meets all Interconnection requirements and the Application is therefore deemed complete and approved for Interconnection; or
b. The Generating Facility design does not satisfy one or more of the requirements listed in subsections R14-2-2615(A) through (J) or does not meet one or more of the Utility's Interconnection requirements, which shall be specified, and the Application is therefore deemed incomplete and not approved for Interconnection.
2. If the Utility's determination falls under subsection (C)(1)(b), the Applicant shall notify the Utility within 30 calendar days whether it wishes to proceed with the Interconnection.
a. Except as provided in subsection (D), if the Applicant does not provide notice within 30 calendar days that it wishes to proceed with the Interconnection, or the Utility is not notified within the specified time-frame, the Application may be considered withdrawn.
b. If the Applicant wishes to proceed with the Interconnection, the Applicant shall submit to the Utility' within 30 calendar days any Utility-specified additional information or modifications to the Generating Facility, along with one of the following:
i. A request that the Utility continue to process the Application under this section;
ii. A request that the Utility process the Application in accordance with R14-2-2619; or
iii. A request that the Utility process the Application in accordance with R14-2-2620.
3. Once an Application is approved, the Generating Facility shall be subject to R14-2-2621.
D. An Applicant may, within 30 calendar days after receiving notice under subsection (C)(1)(b), submit a request for an extension of the 30-day period allowed for submissions under subsection (C)(2)(b).
E. After receiving a submission under subsection (C)(2)(b), a Utility shall again follow the process under subsection (C).
F. A Utility may not charge a fee for an additional review under subsection (C), unless a tariff containing such a fee is approved for the Utility by the Commission.
G. A Customer shall have the responsibility for any costs of Utility facilities and equipment modifications necessary to accommodate the Interconnection.
H. If the Generating Facility's operating characteristics can be modified such that improvements to the Distribution System are reduced or not required, and both the Utility and Customer agree on the operating characteristics, the Customer shall have the opportunity to modify the Generating Facility's operating characteristics to reduce facility costs.

R14-2-2619. Level 3 Study Track

A. A Customer interconnecting a Generating Facility with a Maximum Capacity of 2 MW or greater, or a Generating Facility that does not meet the screening requirements for Level 1 Super Fast Track, Level 2 Fast Track, or Supplemental Review, shall apply for Interconnection under the Level 3 Study Track Application process.
B. An Applicant may request a pre-application meeting with the Utility to discuss the proposed design, installation, and operation of the Generating Facility prior to submission of an Application.
C. The Level 3 Study Track shall proceed as follows:
1. Within 14 calendar days after transfer from Level 1 Super Fast Track, transfer from Level 2 Fast Track, or transfer from Supplemental Review, a Utility shall review the Application and provide the Applicant notice:
a. That the Application satisfies all requirements under R14-2-2614(B); or
b. That the Application does not satisfy one or more requirements under R14-2-2614(B).
i. The Utility shall specify the additional information or documents required;
ii. The Applicant shall submit the specified information or documents; and
iii. The Application may be deemed withdrawn if the Applicant does not submit the required information or documents within 30 calendar days.
2. Within 30 calendar days following provision of notice under (C)(1)(a) or R14-2-2614(D)(1), the Utility shall review the Application and notify the Applicant of one of the following determinations:
a. The Generating Facility design appears to meet all of the applicable Interconnection requirements; no further studies, special protective requirements, or system modifications are required; and the Application is deemed complete and approved for Interconnection; or
b. The Generating Facility does not meet one or more of the Utility's Interconnection requirements, which shall be specified, and cannot be interconnected without further information, data, engineering studies, or modifications to the Distribution System or Generating Facility; the Interconnection shall proceed according to a meeting and study process deemed necessary by the Utility; itemized costs and timelines for the studies will be disclosed and agreed upon by the Utility and Applicant prior to the start of each one; and all studies will be made available to the Applicant.
3. Within 21 calendar days after notice is provided under subsection (C)(2)(b), a Scoping Meeting may be conducted to discuss which studies are needed, and the Utility shall provide to the Customer at the Scoping Meeting an acknowledgement letter describing the project scope and including a good faith estimate of the cost.
4. If requested by the Customer, the Utility shall undertake a Feasibility Study. The Utility shall provide the Customer, within 14 calendar days after the Scoping Meeting, a Feasibility Study agreement including an outline of the scope of the study and a non-binding, good faith estimate of the cost of the materials and labor needed to perform the study. The Utility shall conduct the Feasibility Study after the Customer executes the Feasibility Study agreement, provides all requested information necessary to complete the Feasibility Study, and pays the estimated costs.
a. The Feasibility Study shall be completed within 45 calendar days.
b. The Feasibility Study:

i. Shall include review of short circuit currents, including contribution from the proposed generator, as well as coordination of and potential overloading of distribution circuit protection devices;
ii. Shall provide initial details and ideas on the complexity and likely costs to interconnect prior to commitment of costly engineering review; and
iii. May be used to focus or eliminate some or all of the more intensive System Impact Study.

5. If deemed necessary by the Customer or the Utility, the Utility shall undertake a System Impact Study. The Utility shall provide the Customer, within 14 calendar days after completing the previous study or meeting, a System Impact Study agreement including an outline of the scope of the study and a non-binding, good faith estimate of the cost of the materials and labor needed to perform the study. The Utility shall conduct the System Impact Study after the Customer executes the System Impact Study agreement, provides all requested Customer information necessary to complete the System Impact Study, and pays any required deposit of the estimated costs.
   a. The System Impact Study shall be completed within 45 calendar days.
   b. The System Impact Study shall reveal all areas where the Distribution System would need to be upgraded to allow the Generating Facility to be built and interconnected as designed and may include discussions with the Customer about potential alterations to generator design, including downsizing to limit grid impacts, as well as operational limits that would limit grid impacts if implemented.
   c. If the Utility determines, in accordance with Good Utility Practice, that the Distribution System modifications required to accommodate the proposed Interconnection are not substantial, the System Impact Study shall identify the scope and detailed cost of the modifications.
   d. If the Utility determines, in accordance with Good Utility Practice, that the system modifications to the Distribution System are substantial, a Facilities Study shall be performed.
   e. Each Utility shall include in its Interconnection Manual a description of the various elements of a System Impact Study it would typically undertake pursuant to this Section, including:
      i. Load flow study;
      ii. Short-circuit study;
      iii. Circuit protection and coordination study;
      iv. Impact on system operation;
      v. Stability study, and the conditions justifying inclusion; and
      vi. Voltage collapse study, and the conditions justifying inclusion.
6. The Utility shall undertake a Facilities Study if needed based on the outcome of the System Impact Study. The Utility shall provide the Customer, within 14 calendar days after completing the previous study or meeting, a Facilities Study agreement including an outline of the scope of the study and a non-binding, good faith estimate of the cost of the materials and labor needed to perform the study. The Utility shall conduct the Facilities Study after the Customer executes the Facilities Study agreement, provides all requested Customer information necessary to complete the study, and pays the estimated costs.
   a. The Facilities Study shall be completed within 45 calendar days.
   b. The Facilities Study shall delineate the detailed costs of construction and milestones. Construction may include new circuit breakers, relocation of reclosers, new Utility grid extensions, reconductoring lines, new transformers, protection requirements, and interaction.
7. If the Generating Facility meets all of the applicable Interconnection requirements, all items identified in any meeting or study have been resolved and agreed to, and the Utility has received the final design drawings, then:
   a. The Utility shall send to the Customer, within seven calendar days, an executable Interconnection Agreement, which shall include as an exhibit the cost for any required Distribution System modifications;
   b. The Customer shall review, sign, and return the Interconnection Agreement and any balance due for Interconnection studies or required deposit for facilities; and
   c. The Customer shall then complete installation of the Generating Facility, and the Utility shall complete any Distribution System modifications, according to the requirements set forth in the Interconnection Agreement. The Utility shall employ best reasonable efforts to complete such system upgrades in the shortest time practical.
8. Once an Application is approved, the Generating Facility shall be subject to R14-2-2621.

D. A Utility may not charge a fee for an additional review under subsection (C), unless a tariff containing such a fee is approved for the Utility by the Commission.

E. A Customer shall have the responsibility for any costs of Utility facilities and equipment modifications necessary to accommodate the Customer's Interconnection.

F. If the Generating Facility's operating characteristics can be modified such that improvements to the Distribution System are reduced or not required, and both the Utility and Customer agree on the operating characteristics, the Customer shall have the opportunity to modify the Generating Facility's operating characteristics to reduce facility costs.

R14-2-2620. Supplemental Review

A. If a Utility determines that an Application for Interconnection cannot be approved without conducting a Supplemental Review, or if requested by the Applicant:
   1. The Utility shall, within seven calendar days of making the determination or receiving the request, provide the Applicant a good faith estimate of the cost of the Supplemental Review and a written agreement setting forth the terms of the Supplemental Review; and
   2. The Customer shall, within 14 calendar days of receipt of the good faith estimate and written agreement, sign the written agreement and submit to the Utility a deposit for the full estimated cost of the Supplemental Review.

B. The Applicant may specify the order in which the Utility will complete the screens in subsection (E).

C. The Applicant shall be responsible for the Utility's actual costs for conducting a Supplemental Review and must pay any review costs exceeding the deposit amount within 30 calendar days of receipt of an invoice for the balance, or resolution of any dispute as to those

costs. If the deposit amount exceeds the actual costs of the Supplemental Review, the Utility shall return such excess to the Customer, without interest, within 30 calendar days of completing the Supplemental Review.

D. Within 21 calendar days following receipt of the deposit for a Supplemental Review, the Utility shall:
   1. Perform a Supplemental Review by determining compliance with the screens in subsections (E)(1), (2), and (3);
   2. Unless the Applicant has previously provided instructions for how to respond to the Generating Facility's failure to meet any of the Supplemental Review screens:
      a. Notify the Applicant following the failure of any of the screens; and
      b. If the Utility is unable to determine compliance with the screen in subsection (E)(1), notify the Applicant within two calendar days of making such determination and request the Applicant's permission to:
         i. Continue evaluating the Interconnection under subsection (E);
         ii. Terminate the Supplemental Review and continue evaluating the Generating Facility under R14-2-2619; or
         iii. Terminate the Supplemental Review upon withdrawal of the Interconnection request by the Applicant; and
   3. Notify the Applicant of the results of the Supplemental Review along with copies of the analysis and data underlying the Utility's determinations of compliance with the screens.

E. A Utility shall apply the following screens in its Supplemental Review:
   1. A minimum load screen:
      a. If 12 months of line section minimum load data (including onsite load but not station service load served by the Generating Facility) are available, can be calculated, can be estimated from existing data, or can be determined from a power flow model, the aggregate Generating Facility Maximum Capacity on the line section shall be less than 100% of the minimum load for all line sections bounded by automatic sectionalizing devices upstream of the Generating Facility.
      b. If 12 months of line section minimum load data are not available, or cannot be calculated, estimated, or determined, the Utility shall include in its Supplemental Review results notification under subsection (D) each reason that it is unable to calculate, estimate, or determine minimum load.
      c. In making its determination of compliance with subsections (E)(1)(a) and (b), the Utility shall:
         i. Consider the type of generation used by the Generating Facility when calculating, estimating, or determining the circuit or line section minimum load, using daytime minimum load for solar photovoltaic generation systems with no battery storage (i.e., 10 a.m. to 4 p.m. for fixed panel systems and 8 a.m. to 6 p.m. for solar photovoltaic generation systems utilizing tracking systems), and using absolute minimum load for all other generation;
         ii. For a Generating Facility that serves some station service load, consider only the net injection into the Utility's electric system as part of the aggregate generation; and
         iii. Not consider as part of the aggregate generation, Generating Facility capacity known to be reflected in the minimum load data already.
   2. A voltage and power quality screen: In aggregate with existing Maximum Capacity on the line section:
      a. Voltage regulation on the line section shall be maintained in compliance with relevant requirements under all system conditions;
      b. Voltage fluctuation shall be within acceptable limits as defined by IEEE 1453, IEEE Recommended Practice for the Analysis of Fluctuating Installations on Power Systems (October 30, 2015), with no future editions or amendments, which is incorporated by reference; on file with the Commission; and published by and available from IEEE, 3 Park Avenue, 17th Floor, New York, New York 10016, and through http://ieeexplore.ieee.org; and
      c. Harmonic levels shall meet IEEE 519 limits, IEEE Recommended Practice and Requirements for Harmonic Control in Electric Power Systems (June 11, 2011), with no future editions or amendments, which is incorporated by reference; on file with the Commission; and published by and available from IEEE, 3 Park Avenue, 17th Floor, New York, New York 10016, and through http://ieeexplore.ieee.org.
   3. A safety and reliability screen: The location of the Generating Facility and the aggregate Maximum Capacity on the line section shall not create impacts to safety or reliability that cannot be adequately addressed without application of the Interconnection Study process. In making this determination regarding potential impacts to safety and reliability, the Utility shall give due consideration to the following, and any other relevant factors:
      a. Whether the line section has significant minimum loading levels dominated by a small number of customers (e.g., several large commercial customers);
      b. Whether the loading along the line section is uniform or even;
      c. Whether the Generating Facility is located in close proximity to the substation (i.e., within less than 2.5 electrical circuit miles);
      d. Whether the line section from the substation to the Point of Interconnection is a main feeder line section rated for normal and emergency ampacity;
      e. Whether the Generating Facility incorporates a time delay function to prevent reconnection of the generator to the system until system voltage and frequency are within normal limits for a prescribed time;
      f. Whether operational flexibility is reduced by the Generating Facility, such that transfer of the line section(s) of the Generating Facility to a neighboring distribution circuit/substation may trigger overloads or voltage issues; and
      g. Whether the Generating Facility employs equipment or systems certified by a recognized standards organization to address technical issues such as, but not limited to, Islanding, reverse power flow, or voltage quality.

F. If the Interconnection satisfies subsection (E), the Application is approved for Interconnection and the Utility shall provide the Applicant notice of the Supplemental Review results.

G. If Interconnection Facilities or minor modifications to the Utility's system are required for the Interconnection to meet the standards in subsection (E), the Utility shall notify the Applicant and request for the Applicant to pay for the modifications. If the Applicant agrees to pay for the modifications to the Utility's electric system, the Utility shall provide an Interconnection Agreement, along with

a non-binding good faith estimate of the cost for the Interconnection Facilities and minor modifications, to the Applicant within seven calendar days after the Applicant agrees to pay for the modifications.

H. If more than Interconnection Facilities or minor modifications to the Utility's system would be required for the Interconnection to meet the screens in subsection (E), the Utility shall notify the Applicant, at the same time it notifies the Applicant of the Supplemental Review results, that the Interconnection request shall be evaluated under R14-2-2619, unless the Applicant withdraws its Application.

I. If the Interconnection fails any of the screens in subsection (E), and the Applicant does not withdraw its Application, the Utility shall continue to evaluate the Application under R14-2-2619.

R14-2-2621. Utility Site Inspection; Approval for Parallel Operation

A. Once an Application is approved for Interconnection:
   1. If the Utility has not received an executed Interconnection Agreement, the Utility shall send to the Customer, within seven calendar days after the notice of Application approval, the appropriate Interconnection Agreement for review and signature;
   2. If required, the Customer shall submit to the Utility a copy of the final electrical clearance for the Generating Facility issued by the authority having jurisdiction;
   3. The Customer shall submit all necessary supplemental documents as specified by the Utility; and
   4. A site inspection shall be performed if deemed necessary by the Utility or requested by the Customer.

B. Within seven calendar days after a site inspection is deemed necessary by the Utility, or requested by the Customer, the Utility shall perform a site inspection for which it may charge a fee, if a tariff containing such a fee is approved for the Utility by the Commission. During a site inspection, the Utility shall verify at least the following:
   1. The Generating Facility is in compliance with all applicable Interconnection and code requirements;
   2. All Generating Facility equipment is properly labeled;
   3. The Generating Facility system layout is in accordance with the plant location and site plans submitted to the Utility;
   4. The inverter nameplate ratings are consistent with the information submitted to the Utility;
   5. The Utility has unrestricted 24-hour access to the Utility-owned production meter and Disconnect Switch, and the Disconnect Switch meets all applicable requirements;
   6. The inverter shuts down as required upon simulated loss of Utility voltage; and
   7. To the extent visible, the Generating Facility appears to be wired in accordance with the electrical diagrams submitted to the Utility.

C. The Utility shall install appropriate metering equipment, if required. The Utility may require the Customer to pay for the metering equipment, if a tariff containing such a fee is approved for the Utility by the Commission.

D. Within three calendar days of the completion of the site inspection and the receipt of all final applicable signed Interconnection documents, the Utility shall determine whether the Generating Facility meets all applicable requirements and shall notify the Customer that:
   1. The Generating Facility is approved for Parallel Operation with the Distribution System per the agreed terms and conditions; or
   2. The Generating Facility has failed the site inspection because it does not meet one or more of the applicable requirements, which shall be specified; the Generating Facility is not approved for Parallel Operation; and specified actions must be taken by the Customer to resolve the issue and to obtain approval for Parallel Operation.

E. If the Generating Facility fails the initial Utility site inspection:
   1. The Applicant shall, within 30 calendar days of the initial site inspection, correct any outstanding issues and notify the Utility that all corrections have been made, or the Application may be deemed withdrawn unless alternative arrangements have been made by the Customer with the Utility; and
   2. The Utility shall, within 14 calendar days of the Applicant notice of correction, perform a repeat inspection of the Generating Facility, for which the Utility may charge a fee, if a tariff containing such a fee is approved for the Utility by the Commission.

F. A Utility may take any reasonable actions, including locking open a Disconnect Switch, to prevent Parallel Operation for:
   1. A Generating Facility that fails a site inspection; or
   2. A Customer who operates a Generating Facility in parallel without Utility approval.

G. If a Customer does not interconnect a Generating Facility within 180 calendar days after Application approval, the Customer's Application may be considered withdrawn.

R14-2-2622. Interconnection to a Secondary Spot Network System

A. A Secondary Spot Network System is a system that:
   1. Simultaneously serves a Customer from three-phase, four-wire, low-voltage (typically 480V) circuits supplied by two or more network transformers which have low-voltage terminals that are connected to the low-voltage circuits through network protectors without ties to adjacent or nearby secondary network systems;
   2. Has two or more high-voltage primary feeders that are either dedicated network feeders that serve only other network transformers, or non-dedicated network feeders that serve radial transformers in addition to the network transformers, depending on network size and design; and
   3. Has automatic protective devices and fuses intended to isolate faulted primary feeders, network transformers, or low-voltage cable sections while maintaining uninterrupted service to the consumers served from the low-voltage circuits.

B. Because interconnecting a Generating Facility to a Secondary Spot Network System implicates technical requirements that are particular to the design and operational aspects of network protectors that are not required on radial systems, the Utility shall determine the process for interconnecting to a Secondary Spot Network System, subject to the following:
   1. A Generating Facility shall not be interconnected to the load side of spot network protectors unless the Generating Facility uses an inverter-based equipment package and, together with the aggregated other inverter-based generation, does not exceed the smaller of 5% of the Secondary Spot Network System's maximum load or 50 kW; and

2. Interconnection of a Generating Facility shall not result in a Backfeed of a Secondary Spot Network System or cause unnecessary operation of any Secondary Spot Network System protectors.

R14-2-2623. Expedited Interconnection Process

A. A Customer interconnecting a Non-Exporting inverter-based energy storage Generating Facility or an Inadvertent Export Generating Facility with a Maximum Capacity of 20 kW or less may apply for Interconnection under the Expedited Interconnection Process. In order to qualify for the Expedited Interconnection Process, the Customer's Generating Facility must meet the applicable conditions specified in subsections (B) and (C).

B. For a Customer interconnecting a Non-Exporting Generating Facility:
   1. The Generating Facility shall utilize only UL 1741 and UL 1741SA-listed equipment;
   2. The Generating Facility shall meet all applicable codes and standards;
   3. The Generating Facility shall comply with Utility Interconnection and contractual requirements;
   4. The Generating Facility shall be a Non-Exporting inverter-based energy storage device with an aggregate maximum nameplate rating no greater than 500 kW;
   5. No other Generating Facilities, other than isolated back-up Generating Facilities, may be at the same Point of Interconnection as the Generating Facility;
   6. The Generating Facility shall comply with R14-2-2615(F); and
   7. The Generating Facility shall comply with one of the following:
      a. The system capacity shall be less than 25% of the electrical service entrance ampere rating, and less than 50% of the service transformer rating; or
      b. The system output rating shall be less than 50% of the verifiable Customer minimum load as measured over the past 12 months.

C. For a Customer interconnecting an Inadvertent Export Generating Facility with a Maximum Capacity of 20 kW or less:
   1. The Generating Facility shall utilize only UL 1741 and UL 1741SA-listed equipment;
   2. The Generating Facility shall meet all applicable codes and standards;
   3. The Generating Facility shall comply with Utility Interconnection and contractual requirements;
   4. The Generating Facility shall comply with R14-2-2603(E)(1), and (E)(4) through (7);
   5. No other Generating Facilities, other than isolated back-up Generating Facilities or Generating Facilities that are already subject to an executed Interconnection Agreement, may be at the same Point of Interconnection as the Generating Facility; and
   6. The Generating Facility shall comply with R14-2-2615(E) and (F).

D. The Expedited Interconnection Process shall proceed as follows:
   1. An Applicant shall complete an Application provided by the Utility and submit the Application to the Utility along with all required supplemental information and documents, which shall be noted on the Application, as well as an executed Interconnection Agreement, if required by the Utility, and with an initial application fee or processing fee only if a tariff containing such a fee is approved for the Utility by the Commission.
   2. Within seven calendar days of receipt of the Application, the Utility shall notify the Applicant whether the Application is complete or incomplete.
      a. When the Utility notifies the Applicant that an Application is incomplete, the Utility shall specify what additional information or documentation is necessary to complete the Application.
      b. Within 30 calendar days after receipt of notification that an Application is incomplete, an Applicant shall withdraw the Application or submit the required information or documentation. If an Applicant does not submit the required information or documentation within 30 calendar days, the Application may be considered withdrawn.
   3. Within seven calendar days following the receipt of a complete Application, the Utility shall review the Application and notify the Applicant of one of the following determinations:
      a. The Generating Facility meets the requirements of subsections (B) and (C), and the Application is approved as submitted; or
      b. The Generating Facility does not meet the requirements of subsections (B) and (C), in a manner specified by the Utility; the Application is no longer eligible for processing under the Expedited Interconnection Process; and the Applicant has the option to select Application processing in accordance with R14-2-2620.
   4. If the Application is not accepted as submitted, the Applicant shall notify the Utility within 30 calendar days whether it wishes to proceed with the Interconnection.
      a. If the Applicant does not wish to proceed with the Interconnection, or the Utility is not notified within the specified timeframe, the Application may be considered withdrawn.
      b. If the Applicant wishes to proceed with the Interconnection, the Utility shall begin processing the Application in accordance with R14-2-2620.
   5. Once an Application is approved:
      a. If the Utility has not received an executed Interconnection Agreement, the Utility shall send to the Customer, within three calendar days after the notice of Application approval, the appropriate Interconnection Agreement for review and signature; and
      b. Within three calendar days of the receipt of all final applicable signed Interconnection documents, the Utility shall notify the Customer that the Generating Facility is approved for Parallel Operation.

R14-2-2624. Disconnect Switch Requirements

A. If required by a Utility, a Customer shall install and maintain a visual-open, manually operated, load break Disconnect Switch that completely opens and isolates all ungrounded conductors of the Generating Facility from the Distribution System. For multi-phase systems, the Disconnect Switch shall be gang-operated.

B. A Utility may impose additional requirements for a Disconnect Switch in its Interconnection Manual.

R14-2-2625. Advanced Inverter Requirements

A. If interconnected after the effective date of this Article, a Generating Facility utilizing inverter-based technology shall be interconnected via advanced inverter(s) that are capable of, at minimum, the advanced grid support features specified in subsection (B).

B. At a minimum, an advanced inverter shall be capable of the following grid support features:

1. Volt/VAR Mode – Provide voltage/VAR control through dynamic reactive power injection through autonomous responses to local voltage measurement;
2. Volt/Watt Mode – Provide voltage/watt control though dynamic active power injection through autonomous responses to local voltage measurement;
3. Fixed Power Factor – Provide reactive power by a fixed power factor;
4. Anti-Islanding – Support anti-Islanding to trip off under extended anomalous conditions;
5. Low/High Voltage Ride-through (L/HVRT) – Provide ride-through of low/high voltage excursions beyond normal limits;
6. Low/High Frequency ride-through (L/HFRT) – Provide ride-through of low/high frequency excursions beyond normal limits;
7. Soft-Start Reconnection – Reconnect after grid power is restored; and
8. Frequency/Watt Mode – Provide Frequency/Watt control to counteract frequency excursions beyond normal limits by decreasing or increasing real power.

C. The grid support features listed in subsections (B)(1), (2), (3), (7), and (8) shall only be activated upon mutual consent between the Customer and the Utility.

D. The grid support features listed in subsections (B)(4), (5), and (6) shall always be operational.

E. Advanced inverters shall meet the relevant standards as specified by the Utility in its Interconnection Manual.

R14-2-2626. Utility Reporting Requirements

A. No later than 90 calendar days after the effective date of this Article, each Utility shall file with Docket Control, for Commission review and approval, an Interconnection Manual.

B. A Utility shall file any subsequent revisions to its Interconnection Manual with Docket Control, for Commission review and approval, at least 60 calendar days prior to the proposed effective date of the revision. A revision to enhance health or safety shall become effective immediately, subject to subsequent review and approval by the Commission. The Commission staff may contest a proposed revision and may seek a suspension of the revision for further review. The Utility shall file, with Docket Control, within 10 calendar days of the effective decision date, an updated Interconnection Manual conforming to the Commission's decision approving any revisions to a Utility's Interconnection Manual.

C. Each Utility shall maintain records concerning each received Application for Interconnection and shall include:

1. The date the Application was received;
2. Any documents generated in the course of processing the Application;
3. Any correspondence regarding the Application;
4. The final disposition of the Application; and
5. The final disposition date.

D. By March 30 of each year, each Utility shall file with the Commission a Distributed Generation Interconnection Report, with data for the preceding calendar year that shall include:

1. The number of complete Applications denied by track level, including the reasons for denial;
2. A list of special contracts, approved by the Commission during the reporting period, that provide discounted rates to Customers as an alternative to self-generation;
3. Pre-Application Report:
   a. Total number of reports requested;
   b. Total number of reports issued;
   c. Total number of requests withdrawn; and
   d. Maximum, mean, and median processing times from receipt of request to issuance of report;
4. Interconnection Application:
   a. Total number received, broken down by:
      i. Primary fuel type (e.g., solar, wind, biogas, etc.); and
      ii. System size (<20 kW, 20 kW-2 MW, >2MW);
   b. Expedited Interconnection Process:
      i. Total number of applications approved;
      ii. Total number of applications denied;
      iii. Total number of applications withdrawn; and
      iv. Maximum, mean, and median processing times from receipt of complete Application to execution of Interconnection Agreement;
   c. Level 1 Super Fast Track Process:
      i. Total number of applications approved;
      ii. Total number of applications denied;
      iii. Total number of applications withdrawn; and
      iv. Maximum, mean, and median processing times from receipt of complete Application to execution of Interconnection Agreement;

d. Level 2 Fast Track Process:
   i. Total number of applications approved;
   ii. Total number of applications denied;
   iii. Total number of applications withdrawn; and
   iv. Maximum, mean, and median processing times from receipt of complete Application to execution of Interconnection Agreement;
e. Supplemental Review:
   i. Total number of applications approved;
   ii. Total number of applications denied;
   iii. Total number of applications withdrawn; and
   iv. Maximum, mean, and median processing times from receipt of complete Application to execution of Interconnection Agreement; and
f. Level 3 Study Process:
   i. Total number of System Impact Studies completed;
   ii. Maximum, mean, and median processing times from receipt of signed System Impact Study agreement to provision of study results;
   iii. Total number of Facilities Studies completed;
   iv. Maximum, mean, and median processing times from receipt of signed Facility Study agreement to provision of study results;
   v. Maximum, mean, and median processing times from receipt of complete Application to execution of Interconnection Agreement.

R14-2-2627. Electric Cooperatives

A. Upon Commission approval of an Electric Cooperative's Interconnection Manual, its provisions shall substitute for the timeline requirements set forth in R14-2-2614, and R14-2-2616 through R14-2-2623 for the Electric Cooperative and its Customers.

B. Each Electric Cooperative shall employ best reasonable efforts to comply with the deadlines set forth in the applicable provisions of this Article or, if unable to meet those deadlines, shall process all Applications and conduct all inspections and tests in the shortest time practical.

R14-2-2628. Damages Resulting from Interconnection

The Installer shall be responsible for loss of or damage to property arising from the Interconnection of a Generating Facility that is inadvertently or intentionally operated at a higher capacity than the Operating Characteristics reviewed and approved by the Utility.

EXHIBIT B

0000197139

MEMORANDUM

TO: Docket Control

FROM: Elijah O. Abinah
Director
Utilities Division

DATE: April 5, 2019

RE: STAFF'S RESPONSE TO WRITTEN COMMENTS IN THE MATTER OF THE NOTICE OF PROPOSED RULEMAKING REGARDING INTERCONNECTION OF DISTRIBUTED GENERATION FACILITIES (DOCKET NO. RE-00000A-07-0609)

Attached is the Staff Report summarizing the written comments of interested persons and Staff's responses on the Proposed Rulemaking on Interconnection of Distributed Generation Facilities, pursuant to Decision No. 77056 (January 25, 2019). In Decision No. 77056, the Commission ordered the Utilities Division to file with the Commission's Docket Control on or before April 5, 2019, a document including: (1) a summary of any written comments filed by interested persons between the effective date of that Decision and March 28, 2019, and (2) the Utilities Division's responses to those comments.

EAO:PCL:red/MAS

Originator: Patrick LaMere

Attachments

Arizona Corporation Commission
DOCKETED
APR 05 2019
DOCKETED BY

DECISION NO. 77284

On this 5th day of April, 2019, the foregoing document was filed with Docket Control as a **Staff Report**, and copies of the foregoing were mailed on behalf of the Utilities Division to the following who have not consented to email service. On this date or as soon as possible thereafter, the Commission's eDocket program will automatically email a link to the foregoing to the following who have consented to email service.

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By: Renee de la Fuente
Renee de la Fuente
Administrative Support Specialist

STAFF REPORT
UTILITIES DIVISION
ARIZONA CORPORATION COMMISSION

IN THE MATTER OF THE NOTICE OF PROPOSED RULEMAKING REGARDING INTERCONNECTION OF DISTRIBUTED GENERATION FACILITIES
DOCKET NO. RE-00000A-07-0609

STAFF RESPONSE TO WRITTEN COMMENTS

APRIL 5, 2019

DECISION NO. 77284

STAFF ACKNOWLEGMENT

The Staff Response to Written Comments for In the Matter of the Notice of Proposed Rulemaking Regarding Interconnection of Distributed Generation Facilities, Docket No. Re-0000A-07-0609, was the responsibility of the Staff members listed below.

Patrick LaMere
Executive Consultant
Arizona Corporation Commission

Zachary Branum
Engineering Supervisor
Arizona Corporation Commission

Gurudatta Belavadi
Electrical Utilities Engineer
Arizona Corporation Commission

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INTRODUCTION

The Arizona Corporation Commission ("Commission") Staff hereby files a summary of written comments submitted by interested parties on the proposed Rules since Commission Decision No. 77056 (January 25, 2019) was issued and up to and including March 28, 2019. This report also contains Staff's responses to the comments filed. The Commission has constitutional and statutory authority to make reasonable rules, regulations, and orders, by which Public Service Corporations ("PSCs") shall be governed in the transaction of business within the State and make and enforce reasonable rules, regulations and orders for the convenience, comfort and safety, and the preservation of the health of the employees and patrons of PSCs. See Arizona Constitution Article 15, Sections 3.[1] The proposed Rules outline technical standards that promote current best practices of interconnection for distributed generation for the Utility, its distribution system, its customers and generating facilities serving customers in the State. This helps ensure the continued safe and reliable operation of the distribution system and enhances long-term system planning.

The Commission issued Decision No. 77056 which ordered the Utilities Division to file, by February 1, 2019, a Notice of Proposed Rulemaking regarding Interconnection of Distributed Generation Facilities with the Office of the Secretary of State for publication. The proposed Rules were filed with the Secretary of State. The Notice of Proposed Rulemaking was published in the *Arizona Administrative Register* on February 15, 2019.

Decision No. 77056 ordered the Utilities Division to file with the Commission's Docket Control on or before April 5, 2019, a document including: (1) a summary of any written comments filed by interested persons between the effective date of that Decision and March 28, 2019, and (2) the Utilities Division's responses to those comments.

Written comments were received from the following interested parties between the effective date of Decision No. 77056 and March 28, 2019: Alliance for Industrial Efficiency; Mandalay Communities, Inc.; sonnen, Inc.; Grand Canyon State Electric Cooperative Association, Inc.; Western Resource Advocates; Tucson Electric Power and UNS Electric; Sunrun; the Solar Energy Industries Association, and the Arizona Solar Energy Industries Association. Staff has responded to written comments filed by interested parties determined to be substantial.

SUMMARY OF WRITTEN COMMENTS

Filed in Support of the Proposed Rules

The following interested parties have filed written comments in support of the proposed Rules: The Alliance for Industrial Efficiency ("the Alliance"), Western Resource Advocates ("WRA"), Solar Energy Industries Association ("SEIA"), Tucson Electric Power Company and UNS Electric, Inc., Arizona Solar Energy Industries Association ("AriSEIA"), and Tesla.

[1] The Commission also has statutory authority to ensure the provision of safe and reliable electric service in the State. See, e.g. Arizona Revised Statutes ("A.R.S") §§ 40-202, 40-203, 40-321, 40-322(A), 40-332(B), 40-336, 40-361, and 40-374.

Mandalay Communities, Inc. (March 20, 2019)

Mandalay Communities, Inc. ("Mandalay") manufactures and maintains energy efficient homes in Clarkdale, Arizona, each with six to eight panel rooftop solar arrays and a home battery by sonnen. Mandalay recommends that a waiver provision be included. Mandalay states that the safest and most efficient way to achieve interconnection may not always align with the processes and timelines required by the proposed Rules. A waiver provision would allow a process to immediately invoke the assistance of the Commission and Staff as to how a rule should be applied.

Mandalay proposes the following language:

R14-2-2629. Waiver from the Provisions of this Article

A. The Commission may waive compliance with any provision of this Article upon a finding that such waiver is in the public interest.

B. Any affected entity may petition the Commission to waive its compliance with any provision of this Article for good cause.

C. A petition filed pursuant to these rules shall have priority over other matters filed at the Commission.

Mandalay states that its proposed waiver provision is patterned after the waiver provisions found in other Commission rules. Mandalay acknowledges that the Commission is generally empowered to grant waivers or exemptions without a waiver provision. Mandalay also states that a waiver provision would leave no doubt that seeking a waiver is authorized. It also states that as drafted, the power to control the pace, cost, and availability of new types of distributed interconnection will rest almost exclusively with the Utility. A waiver provision would create a transparent process to advance the Commission's policy goals when the requirements of the proposed Rules do not in a particular case.

sonnen, Inc.(March 21, 2019)

Comments were made by sonnen, Inc. ("sonnen"), commending the Commission for engaging stakeholders in the rulemaking process but raising the following issues for further clarification:

1. As "Maximum Capacity" is currently defined in the proposed Rules, it may have an adverse impact on owners of residential battery storage systems. The current proposed language may have an adverse and unnecessarily burdensome impact on owners of residential battery storage systems necessitating costly upgrades due to the focus on nameplate capacity alone rather than the real-life operating conditions of the advanced system controls; or it may result in customers forgoing the purchase and installation of a battery storage system altogether.

2. All recited "standards" referenced in the proposed Rules should consistently and uniformly tie back to and be drawn from the "Interconnection Manual" defined in

R414-2-2601, paragraph 28. There should be clarification as to the importance of tying all standards in the proposed Rules back uniformly to each Utility's Interconnection Manual.

Grand Canyon State Electric Cooperative Association, Inc. (March 22, 2019)

Grand Canyon State Electric Cooperative Association, Inc. ("GCSECA") has been actively involved in proceedings related to consideration of interconnection rules for a number of years. Many of GCSECA's concerns involved the proposed timelines associated with processing interconnection applications given the Cooperatives' limited resources. In the proposed Rules, the Commission included provision R14-2-2627 for Cooperatives, granting flexibility to propose their own timeframes for processing interconnection applications. GCSECA supports this portion of the proposed Rules.

However, GCSECA continues to have concerns regarding the potential impact the proposed Rules may have on the Cooperatives' funding sources. Cooperatives that secure financing from the Rural Utilities Service ("RUS") are subject to RUS criteria regarding interconnection of distributed resources to their systems. GCSECA is concerned that proposed Rule R14-2-2607 may conflict with RUS requirements, specifically 7 CFR § 1730.60 *et seq.* GCSECA states that Staff agreed at the Commission's December 2018 Open Meeting to work with the Cooperatives to ensure that their Commission-approved Interconnection Manuals would not conflict with lender requirements. In light of this commitment from Staff, the Cooperatives do not oppose the proposed Rules and will work with Staff to resolve any potential conflict in this regard.

Sunrun (March 28, 2019)

Sunrun supports the proposed Rules that the Commission approved in Decision No. 77056, which are the culmination of a long collaborative process. Sunrun expresses one concern that customers installing non-exporting energy storage systems should be permitted to interconnect through an expedited permitting process requiring only notification to the utility, which is the new practice with several utilities around the Untied States. Sunrun hopes that the Commission will continue to review this option in the future.

STAFF RESPONSES TO WRITTEN COMMENTS

Mandalay Communities, Inc.

Staff appreciates the written comments filed by Mandalay on March 21, 2019, and its support of the proposed Rules. Staff responds to Mandalay's request that the Commission add a waiver provision to the proposed Rules.

The proposed Rules explicitly establish technical standards that promote current best practices of interconnection for distributed generation for the Utility, its distribution system, its

customers and its customers' generating facilities. This helps ensure the continued safe and reliable operation of the distribution system and enhances long-term system planning. The Utilities Division Staff is concerned that a waiver provision could result in a lack of consistency in implementing standards contained in the proposed Rules. In the rare instance where unfairness or health or safety concerns may result, Mandalay acknowledges that the Commission has the ability to waive its own Rules when necessary to address these situations, despite lack of an express provision in the proposed Rules. Accordingly, Staff does not support this change.

sonnen, Inc.

Staff appreciates the written comments filed by sonnen on March 21, 2019, in support of the proposed Rules and responds to the two issues raised by sonnen.

First, in regard to the proposed definition of "Maximum Capacity", at the Commission Open Meeting held on January 15, 2019, Commissioner Tobin's Proposed Amendment No. 2 was passed to address the definition of "Maximum Capacity". The new definition is as follows:

> 33. "Maximum Capacity" means the nameplate AC capacity of a Generating Facility. If the Operating Characteristics of the Generating Facility limit the power transferred across the Point of Interconnection to the Distribution System, only the power transferred across the Point of Interconnection to the Distribution System, not including Inadvertent Export, shall be declared as the Maximum Capacity of the Generating Facility.

Staff believes that the sonnen's concern has already been addressed by Commissioner Tobin's amendment which was incorporated into the proposed Rules.

Second, in regard to the standards in each Utility's Interconnection Manual, each Utility will submit its Interconnection Manual to the Commission for review and approval.

The standards being recited in the proposed Rules, i.e., IEEE 1453, IEEE 519 and UL 1741 are included to ensure safe and reliable operation of the grid. Due to limitations imposed by the rulemaking process, it's not possible to 'future-proof' the standards by referencing future updates. While the proposed Rules include the latest versions of the standards, the Commission approved Utility Interconnection Manual can help keep the standards up-to-date in the future. The proposed Rules apply to all types of Generating Facility technologies, and this approach ensures safe and reliable operation of the grid while staying broad enough to cover all technologies. The proposed Rules recite certain standards without completely deferring to each Utility's Interconnection Manual to ensure consistent application of industry best practices regarding safety and reliability and establish a baseline which can be built upon.

The standards for Inverter based Export and Non-Export systems, which cover the vast majority of the DG systems being interconnected to the Utility distribution system, are provided by the Interconnection Manual. The UL 1741 and UL 1741-SA standards apply to Inadvertent

export systems applying under the regular screening process, and Non-export systems and Inadvertent export systems under 20 kW applying under the Expedited Interconnection process.

To reduce discrepancies in future Interconnection Applications, Staff believes when the IEEE 1547 standard is updated and approved, it can be implemented more effectively through each Utility's Interconnection Manual. If referenced in the Rules, a Notice of Supplemental Rulemaking Process would need to be undertaken by the Commission to formally update any standard. This is not necessary at this time and would only result in further delay.

Grand Canyon State Electric Cooperative Association, Inc.

Staff appreciates the written comments filed by GCSECA. On March 22, 2019, in support of the proposed Rules, GCSECA raised a concern regarding the potential impact the proposed Rules may have on the Cooperatives' funding resources, more specifically the Rural Utilities Service ("RUS"). GSCECA expresses a concern that proposed Rule R14-2-2607 may conflict with RUS requirements, specifically 7 CFR § 1730.63(c)(1):

> (c) Responsible Party[2] obligations. IDR policies must provide for appropriate Responsible Parties to assume the following risks and responsibilities:
>
> (1) A Responsible Party must agree to maintain appropriate liability insurance as outlined in the borrower's[3] interconnection policy.

R14-2-2607(A) of the Proposed Rules states that Utilities shall not require customers to provide general liability insurance coverage as a condition to interconnection. Under 7 CFR § 730.63(c)(l), RUS borrowers must require interconnecting customers to maintain "appropriate liability insurance."

Staff, having reviewed the Company's comments believes that the issue can be resolved in each Utility's Interconnection Manual. The Commission will review and approve each Utility's Interconnection Manual. At that time, Staff encourages each Utility to actively participate to assure all concerns are resolved.

Sunrun

Staff appreciates the written comments filed by Sunrun on March 28, 2019, in support of the proposed Rules. In regard to customers installing non-exporting energy storage systems, the Commission will continue to review this option in the future.

---

[2] *See* 7 CFR § 1730.62 "Responsible party" as used in this subpart means the owner, operator or any other person or entity that is accountable to the borrower under the borrower's interconnection policy for Distributed Resources.
[3] *See* 7 CFR § 1710.2(a) "Distribution Borrower" means a borrower that sells or intends to sell electric power and energy at retail in rural areas.

EXHIBIT C

ORIGINAL

0000197570

MEMORANDUM

TO: Docket Control

FROM: Elijah O. Abinah
Director
Utilities Division

DATE: April 26, 2019

RE: STAFF'S RESPONSE TO ORAL COMMENTS IN THE MATTER OF THE NOTICE OF PROPOSED RULEMAKING REGARDING INTERCONNECTION OF DISTRIBUTED GENERATION FACILITIES (DOCKET NO. RE-00000A-07-0609).

Attached is the Staff Report regarding oral comments made by interested parties on the Proposed Rulemaking on Interconnection of Distributed Generation Facilities, pursuant to Decision No. 77056 (January 25, 2019). In Decision No. 77056, the Arizona Corporation Commission ("Commission") ordered the Commission's Utilities Division Staff ("Staff") to file with the Commission's Docket Control on or before April 26, 2019, a document including: (1) a summary of all written comments filed by interested persons after March 25, 2019, and oral comments received at the oral proceedings in this matter; (2) Staff's responses to those comments; and (3) a revised Economic, Small Business, and Consumer Impact Statement or a memorandum explaining why no revision of the prior Economic, Small Business, and Consumer Impact Statement is necessary.

EOA:PCL:elr/MAS

Originator: Patrick LaMere

Attachments

Arizona Corporation Commission
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77284

DECISION NO. _____

On this 26th day of April, 2019, the foregoing document was filed with Docket Control as a Staff Report, and copies of the foregoing were mailed on behalf of the Utilities Division to the following who have not consented to email service. On this date or as soon as possible thereafter, the Commission's eDocket program will automatically email a link to the foregoing to the following who have consented to email service.

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By: _____
Edna Luna-Reza
Administrative Support Specialist

77284

DECISION NO. _____

STAFF REPORT
UTILITIES DIVISION
ARIZONA CORPORATION COMMISSION

IN THE MATTER OF THE NOTICE OF PROPOSED RULEMAKING REGARDING INTERCONNECTION OF DISTRIBUTED GENERATION FACILITIES
DOCKET NO. RE-00000A-07-0609

STAFF RESPONSE TO ORAL COMMENTS

APRIL 26, 2019

77284

DECISION NO. _____

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INTRODUCTION

The Arizona Corporation Commission ("Commission") Staff hereby files a summary of written comments submitted by interested parties on the proposed Rules since Commission Decision No. 77056 (January 25, 2019) was issued and up to and including March 28, 2019. This report also contains Staff's responses to the comments filed. The Commission has constitutional and statutory authority to make reasonable Rules, regulations, and orders, by which Public Service Corporations ("PSCs") shall be governed in the transaction of business within the State and make and enforce reasonable Rules, regulations and orders for the convenience, comfort and safety, and the preservation of the health of the employees and patrons of PSCs. See Arizona Constitution Article 15, Sections 3.[1] The proposed Rules outline technical standards that promote current best practices of interconnection for distributed generation for the Utility, its distribution system, its customers and generating facilities serving customers in the State. This helps ensure the continued safe and reliable operation of the distribution system and enhances long-term system planning.

The Commission issued Decision No. 77056, which ordered the Commission's Utilities Division Staff ("Staff") to file, by February 1, 2019, a Notice of Proposed Rulemaking regarding Interconnection of Distributed Generation Facilities with the Office of the Secretary of State for publication. The proposed Rules were filed with the Secretary of State. The Notice of Proposed Rulemaking was published in the *Arizona Administrative Register* on February 15, 2019.

Decision No. 77056 ordered Staff to file with the Commission's Docket Control on or before April 26, 2019, a document including: (1) a summary of all written comments filed by interested persons after March 25, 2019, and oral comments received at the oral proceedings in this matter; (2) Staff's responses to those comments; and (3) a revised Economic, Small Business, and Consumer Impact Statement or a memorandum explaining why no revision of the prior Economic, Small Business, and Consumer Impact Statement is necessary.

SUMMARY OF ORAL COMMENTS REGARDING THE PROPOSED RULES

Joan Burke of Mandalay Communities, Inc. recommends that a waiver provision be included in the Rules. Mandalay Communities, Inc. made a similar request on March 20, 2019 in its written comments.

Jennifer Cranston of Grand Canyon State Electric Cooperative Association, Inc. supports the waiver request by Ms. Burke. Ms. Cranston requests that the Interconnection Manual allows some flexibility in addressing the particular circumstances of the individual company submitting the Manual.

Individual rate payer Bruce Plenk requests that a rule be adopted that explicitly says that the Commission will respond to, incorporate and include code changes that are referenced in the proposed Rules. Mr. Plenk offers that such a rule could be included in section R14-2-2626 Utility's Reporting Requirements and that a requirement be included in each Utility's Interconnection

[1] The Commission also has statutory authority to ensure the provision of safe and reliable electric service in the State. See, e.g. Arizona Revised Statutes ("A.R.S") §§ 40-202, 40-203, 40-321, 40-322(A), 40-332(B), 40-336, 40-361, and 40-374.

Manual. Lastly, Mr. Plenk recommends that a Utility may not "unreasonably delay" interconnection of a generating facility that satisfies the requirements of the proposed Rules and the Utility's Interconnection Manual.

Judge Harpring requested that Staff respond and include a discussion of the legal authority specifically for R14-2-2628, and whether that proposed rule is consistent with 7 Code of Federal Regulations ("C.F.R."), Part 1730, Subpart C. Judge Harpring further requested that Staff respond to the following question: If a date in the Rules [for a standard], so either of the IEEE standards with a date or a UL standard with a date, if the updated standard is more stringent than the standard that is in the Rules, would the Utility be able to incorporate a requirement for the more stringent standard in their Interconnection Manual?

STAFF RESPONSES TO ORAL COMMENTS

In regard to a Ms. Burke and Ms. Cranston's comments relating to a waiver provision being included in the proposed Rules, the proposed Rules explicitly establish technical standards that promote current best practices of interconnection for distributed generation for the Utility, its distribution system, its customers and its customers' generating facilities. This helps ensure the continued safe and reliable operation of the distribution system and enhances long-term system planning. Staff is concerned that a waiver provision could result in a lack of consistency in implementing standards contained in the proposed Rules. In a matter of public health and safety, any time there is a conflict with an existing Rule, that the existing statutes allow the Commission to take action and make changes to the rule. The Commission is generally empowered to grant waivers or exceptions without a waiver provision, and the Commission has so held in the past. Accordingly, Staff does not support this change.

In regard to Ms. Cranston's comments on flexibility of Interconnection Manuals based on company type, Staff believes company-specific issues can be resolved in each Utility's Interconnection Manual. The Commission will review and approve each Utility's Interconnection Manual. At that time, Staff encourages each Utility to actively participate to assure all concerns are resolved.

In regard to Mr. Plenk's comments and Judge Harpring's request of Staff on the standards referenced in the proposed rules, Staff believes this concern has been addressed in its April 5, 2019 filing.

Each Utility will submit its Interconnection Manual to the Commission for review and approval. The standards being recited in the proposed Rules, i.e., IEEE 1453, IEEE 519 and UL 1741 are included to ensure safe and reliable operation of the grid. Due to limitations imposed by the rulemaking process, it's not possible to 'future-proof' the standards by referencing future updates. While the proposed Rules include the latest versions of the standards, the Commission approved Utility Interconnection Manual can help keep the standards up-to-date in the future. The proposed Rules apply to all types of Generating Facility technologies, and this approach ensures safe and reliable operation of the grid while staying broad enough to cover all technologies. The proposed Rules recite certain standards without completely deferring to each Utility's

Interconnection Manual to ensure consistent application of industry best practices regarding safety and reliability and establish a baseline which can be built upon.

The standards for Inverter based Export and Non-Export systems, which cover the vast majority of the Distributed Generation systems being interconnected to the Utility distribution system, are provided by the Interconnection Manual. The UL 1741 and UL 1741-SA standards apply to Inadvertent export systems applying under the regular screening process, and Non-export systems and Inadvertent export systems under 20 kW applying under the Expedited Interconnection process.

To reduce discrepancies in future Interconnection Applications, Staff believes when the IEEE 1547 standard is updated and approved, it can be implemented more effectively through each Utility's Interconnection Manual. If referenced in the Rules, a Notice of Supplemental Rulemaking Process would need to be undertaken by the Commission to formally update any standard. This is not necessary at this time and would only result in further delay.

Staff offers the following response to Judge Harpring's request that Staff respond and include a discussion of the legal authority specifically for R14-2-2628, and whether that proposed Rule is consistent with 7 CFR, Part 1730, Subpart C. 7 CFR, Part 1730, Subpart C, contains requirements applicable to RUS borrowers for the interconnection of Distributed Generation resources to their facilities. The legal authority for the Rule would be the same health and safety provisions contained in the Arizona Constitution and statutes that Staff has cited in support of the Rules themselves. Further, any inconsistency to the extent it exists with 7 CFR, Part 1730, Subpart C, can be remedied through the Interconnection Manual.

DISCUSSION OF THE ECONOMIC, SMALL BUSINESS, AND CONSUMER IMPACT STATEMENT

Staff believes that revision to the Economic, Small Business, and Consumer Impact Statement filed on March 15, 2019 is necessary. In its revised filing, Staff offers more detailed description of the costs and benefits associated with the passing of the proposed Rules. Furthermore, Staff has corrected spelling and grammatical errors.

EXHIBIT D

ORIGINAL

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BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS
ROBERT "BOB" BURNS – Chairman
ANDY TOBIN
BOYD W. DUNN
SANDRA D. KENNEDY
JUSTIN OLSON

IN THE MATTER OF THE NOTICE OF PROPOSED RULEMAKING REGARDING INTERCONNECTION OF DISTRIBUTED GENERATION FACILITIES.

DOCKET NO. RE-00000A-07-0609

SUPPLEMENTAL COMMENTS OF STAFF TO ORAL COMMENTS

On April 26, 2019, Staff filed its response to oral comments made at the two oral proceedings in the above-captioned rulemaking proceeding. Staff hereby files supplements to the initial response provided to the two questions raised by Judge Harpring. Staff also addresses the clerical error in R14-2-2620(E)(2)(c) which it raised at the oral proceeding in Phoenix.

The first question Staff was asked to address was the legal authority for R14-2-2628, and whether the proposed Interconnection rule is consistent with 7 CFR, Subpart C, Section 1730. The Commission's authority for the rule is grounded in its plenary ratemaking authority. R14-2-2628 provides that "The installer shall be responsible for loss of or damage to property arising from the interconnection of a generating facility that is inadvertently or intentionally operated at a higher capacity than the operating characteristics reviewed and approved by the utility." As far as the Commission's legal authority, Staff views this as similar to a limitation of liability provision which is common in utility practice and in utility tariffs which the Commission approves. These limitation of liability provisions put individuals on notice that the utility will not be liable for any loss or damage resulting from the operation of its facilities, or that the utility's liability will be limited. In this instance, the provision puts parties on notice that the installer, not the utility, will be the party responsible for intentional or inadvertent actions which result in the generating facility being operated at a higher capacity than that reviewed and approved by the utility and damage or loss results.

Arizona Corporation Commission
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DECISION NO. _____

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The Rural Utilities Service ("RUS") rules at 7 CFR, Subpart C, Section 1730.63 contain provisions putting various obligations on applicants and responsible parties, who are third party entities other than the borrower or cooperative as well. These provisions refer to costs, liability insurance, and safe and effective operation and maintenance of the facility. R14-2-2628 is similar in that it requires that liability be placed on the responsible party (in this case the installer) for damage to the system caused either by the installer's intentional or inadvertent action inconsistent with what was reviewed and approved by the utility. The utility will be required to put this language in their Interconnection Manuals which the Commission approves. Any action for damages or loss would continue to be brought at the superior court, and it would be that court that would determine the amount of any damage or loss.

The rule is not inconsistent with 7 CFR, Subpart C, Section 1730. CFR, Subpart C, Section 1730.63 is applicable to RUS borrowers and contains RUS policy on interconnection of distributed resources. Grand Canyon State Electric Cooperative Association ("GCSECA") had raised a concern that 7 CFR, Subpart C, 1730.63(c)(1) which provides that a responsible party must agree to maintain appropriate liability insurance as outlined in the borrower's interconnection policy was inconsistent with R14-2-2607(A). This Commission rule states that utilities shall not require customers to provide general liability insurance coverage as a condition to interconnection. First, Staff would note that there is a difference between a cooperative requiring customers to provide general liability insurance and a provision which states that a responsible party must agree to maintain appropriate liability insurance as outlined in the borrower's interconnection policy. Second, if GCSECA were to follow the Commission rules as its policy, the responsible party would not have to provide liability insurance. Third, to the extent GCSECA interprets RUS rules as requiring that the responsible party have liability insurance, GCSECA can request a waiver due to the RUS rule requirements. And, if GCSECA and other cooperatives have specific liability insurance requirements as a result of the RUS rules, it can set those out in its Interconnection Manual.

The second question Staff was asked to address is that if there is a specific standard (IEEE or UL) in the rules with a date, and an updated standard is adopted that is more stringent than the existing standard, could the Commission require the utility to incorporate the more stringent standard in its

Interconnection Manual. Staff believes it is important to note that the Commission is not faced with this issue at this time. Therefore, no action is necessary at this time. To the extent that an updated standard is adopted with new or changed requirements that are more stringent, Staff will likely at that time initiate a proposed change to update the rules. Staff is hopeful that utilities would agree to comply with the new standard until that time and would change their Interconnection Manuals to refer to the updated standard. If the new updated standards required a rulemaking, and they implicated health and safety concerns, the updated rules could be enacted on an expedited timeframe.

Finally, Staff noted at the oral proceeding held in Phoenix, that the rules contained a clerical error in that the wrong date had inadvertently been inserted in R14-2-2620(E)(2)(c). The correct date is actually June 11, 2014. Based on communications with legal authorities outside the agency and internally, Staff believes the correction of this clerical error would not be a substantial change.

RESPECTFULLY SUBMITTED this 14th day of May 2019.

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On this 14th day of May, 2019, the foregoing document was filed with Docket Control as a Utilities Division Memorandum and copies of the foregoing were mailed on behalf of the Utilities Division to the following who have not consented to email service. On this date or as soon as possible thereafter, the Commission's eDocket program will automatically email a link to the foregoing to the following who have consented to email service.

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77284

EXHIBIT E

Summary of the Comments Made on the Rulemaking and the Agency Response to Them, Prepared Pursuant to A.R.S. § 41-1001(16)(d)(iii)

The written and oral comments received by the Commission concerning the published Notice of Proposed Rulemaking are included in the following table, along with the Commission response to each.

Written Comments on Notice of Proposed Rulemaking	
Public Comment	**Commission Response**
THE DGI RULES GENERALLY	
Mandalay Communities, Inc. ("Mandalay") praised Staff for writing and recommending the DGI Rules, which will make interconnection more predictable and less costly for ratepayers.	The Commission acknowledges the supportive comment. No change is needed as a result of the comment.
Sonnen, Inc. ("Sonnen") commended the Commission for engaging stakeholders in the rulemaking process and establishing a uniform platform of rules and guidelines for interconnection of DG facilities.	The Commission acknowledges the supportive comment. No change is needed as a result of the comment.
Western Resource Advocates ("WRA") praised Staff for doing an "exceptional job" in constructing the DGI Rules, which WRA stated provide a good basis for efficient interconnection and an equitable compromise between the various stakeholders' interests. WRA stated that it supports the DGI Rules and did not think that any additional changes were necessary or should be considered at this time. WRA stated that the DGI Rules will serve as a "benchmark and model for other states in the region." WRA asserted that new information and changes in technology can be handled through Interconnection Manuals that will be approved by the Commission.	The Commission acknowledges the supportive comment. No change is needed as a result of the comment.
Tucson Electric Power Company ("TEP") and UNS Electric, Inc. ("UNSE") stated that they support the adoption of the DGI Rules. TEP and UNSE stated that Staff conducted a thorough and highly collaborative process to develop the DGI Rules, which appropriately integrate stakeholder comments and concerns while preserving the safety and reliability of the distribution system and represent an important step in modernizing the interconnection process.	The Commission acknowledges the supportive comment. No change is needed as a result of the comment.
The Solar Energy Industries Association ("SEIA") expressed deep appreciation for the Commission's progress toward statewide interconnection rules, stated that the DGI Rules will be critical in facilitating solar and battery storage deployment in Arizona, and expressed support for adoption of the DGI Rules. SEIA thanked Staff for its hard work and collaborative effort in developing the DGI Rules. SEIA	The Commission acknowledges the supportive comment. No change is needed as a result of the comment.

emphasized the importance of the Commission's review of Interconnection Manuals to ensure consistency and predictability for developers in Arizona.	
The Arizona Solar Energy Industries Association ("AriSEIA") expressed its support for the DGI Rules and thanked Staff for its hard work and collaborative effort in developing the DGI Rules. AriSEIA stated that the rulemaking process successfully balanced the interests of many different stakeholders, resulting in rules that are fair to all parties involved and that will accommodate technological advancement. AriSEIA emphasized the importance of the Commission's review of Interconnection Manuals.	The Commission acknowledges the supportive comment. No change is needed as a result of the comment.
Sunrun, Inc. ("Sunrun") stated that it supports adoption of the DGI Rules, which it characterized as the culmination of a long collaborative process, and expressed appreciation to the Commissioners for making key changes to make the DGI Rules more consumer friendly. Sunrun stated that it will be important to continue reviewing and changing the rules as needed in the future to ensure they remain consumer and business friendly.	The Commission acknowledges the supportive comment. No change is needed as a result of the comment.
Tesla, Inc. ("Tesla") thanked the Commission for its diligence and focus in crafting interconnection rules that standardize processes for Arizona consumers, reduce regulatory burden, and result in rules that reflect current best practices for deployment of energy storage. Tesla stated that it supports adoption of the DGI Rules.	The Commission acknowledges the supportive comment. No change is needed as a result of the comment.
The Alliance for Industrial Efficiency ("Alliance") stated that the DGI Rules will help make it easier for Arizona businesses to install distributed technologies like combined heat and power and will get rid of the patchwork of requirements and procedures that developers face across the state, thus helping to make clean energy cheaper and easier to access.	The Commission acknowledges the supportive comment. No change is needed as a result of the comment.
Mandalay expressed concern that, over time and with technology changes, the DGI Rules may not always result in the safest, most efficient way to achieve interconnection. Mandalay asserted that flexibility in application of the DGI Rules will be needed. Mandalay acknowledged that the "Commission is generally empowered to grant waivers or exemptions without a waiver provision." However, Mandalay recommended adding the following waiver language to the DGI Rules: **R14-2-2629. Waiver from the Provisions of this Article** A. The Commission may waive compliance with any provision of this Article upon a finding that such waiver is in the public interest. B. Any affected entity may petition the Commission	Staff responded that the DGI Rules establish technical standards that promote current best practices of interconnection for DG for the utility, its distribution system, its customers, and its customers' generating facilities, to help ensure the continued safe and reliable operation of the distribution system and enhance long-term system planning. Staff is concerned that a waiver provision could result in a lack of consistency in implementation of the standards contained in the DGI Rules. Staff added that because the Commission is generally empowered to grant waivers or exceptions to its rules without a waiver provision, the Commission will be

to waive its compliance with any provision of this Article for good cause. C. A petition filed pursuant to these rules shall have priority over other matters filed at the Commission. Mandalay stated that without this flexibility, the DGI Rules could unintentionally quell investment or compromise safety. Mandalay added that the proposed language is patterned after A.A.C. R14-2-1816, in the Commission's Renewable Energy Standard and Tariff Rules, and that similar waiver provisions are found in A.A.C. R14-2-806, R14-2-1311, R14-2-2419, and R14-2-2520. Mandalay asserted that an explicit waiver provision will encourage evenhanded application by creating a transparent process to be used when a rule fails to advance the Commission's policy goals, such as public health and safety. Mandalay added that the waiver provision will not make the rules "substantially different from the proposed rule" under A.R.S. § 41-1025 because it would not alter the effects of the DGI Rules and would not change the rights and obligations of entities regulated by the DGI Rules.	able to grant waivers if unfairness or public health and safety issues should arise in the future. The Commission agrees with Staff's assessment. As Mandalay acknowledged, the Commission has the authority to waive provisions of its rules when necessary to protect the public interest. No change is needed as a result of this comment.
"STANDARDS" IN THE DGI RULES	
Sonnen stated that it is important for the Commission to tie all of the standards in the DGI Rules back uniformly to the Interconnection Manual. Sonnen stated that such a reference appears in R14-2-2611(A)(1), R14-2-2614(E)(1), and R14-2-2625(E) with regard to inverters, but is missing from R14-2-2614(E)(2), R14-2-2623(B)(2), and R14-2-2623(C)(2) with regard to Generating Facilities. Sonnen stated that if the "standards" referenced in these provisions are not drawn directly from the Interconnection Manual, then the Commission should clarify what "standards" are being referenced.	The Commission agrees that it would be beneficial to clarify what is meant when the DGI Rules reference "standards" in different locations and to standardize the language used. In R14-2-2611(A)(1) and (2), R14-2-2614(E)(2), and R14-2-2623(B)(2) and (C)(2), the language used to refer to the codes and standards with which a Generating Facility must comply has been standardized.
WRA stated that the technology of Distributed Energy Resources ("DERs") is changing rapidly and that new features inherent in advanced inverters, as specified in IEEE 1547 (April 2018), should be used as soon as practicable. WRA encouraged Staff to convene workshops to flesh out the new advanced inverter features that have the ability to solve grid problems that can be caused by high penetration of DERs concentrated in particular locations.	The Commission believes that it is prudent at this time to expressly adopt the shutdown protective functions specified in IEEE 1547-2018 for inverters and advanced inverters. Thus, language has been added in R14-2-2614(E)(1) and R14-2-2625(E) expressly requiring compliance with these requirements. The Commission expects that technological changes in DERs will be further explored within the Energy Rules docket, RU-00000A-18-0284, and will direct Staff to conduct additional rulemaking related to those changes as appropriate.
TIMELINES IN THE DGI RULES	

AriSEIA stated that it expects to provide input related to the timing for large and potentially complicated commercial scale distributed energy projects, to ensure that these projects are not required to reapply for interconnection due to enforcement of an unrealistically short timeline for construction.	The Commission believes that AriSEIA was referring to the 180-day timeframe for interconnection included in R14-2-2621(G). The Commission notes that while the provision allows a utility to consider a customer's application withdrawn if the customer does not interconnect a generating facility within 180 calendar days after application approval, it does not require a utility to do so. The Commission expects each utility to make such a determination only if reasonable progress in construction is not being made. If a customer believes that a utility's application of this provision is unjust under the circumstances, the customer may submit an informal complaint to the Commission and, if dissatisfied with the utility's response to the informal complaint, may submit a formal complaint for adjudication by the Commission.
R14-2-2601. DEFINITIONS	
Sonnen stated that the definition of "Maximum Capacity" may adversely impact owners of residential battery storage systems because it measures a "Generating Facility" solely by the total nameplate capacity of its component parts. Sonnen asserted that for its residential battery storage systems, the appropriate metrics are the control systems and advanced inverter settings, not the nameplate capacity, because the control systems and advanced inverter settings safely and reliably limit the amount of electricity beyond the point of interconnection. Sonnen asserted that the definition might cause some owners of residential battery storage systems to implement costly upgrades or choose to forgo purchasing and installing a battery storage system.	Staff stated that Sonnen's issue with the definition was resolved through the adoption of Commissioner Tobin's Proposed Amendment No. 2. As included in the NPRM, the definition provided that if the operating characteristics of a generating facility limit the power transferred across the point of interconnection to the distribution system, only the power transferred (excluding inadvertent export) shall be declared the maximum capacity of the generating facility. The Commission agrees that the definition included in the NPRM has addressed Sonnen's issue, but has modified the structure of the definition to make it clearer.
Tesla stated that defining "Maximum Capacity" so that systems' operating characteristics drive screening tracks, while still providing utilities the ability to look to nameplate capacity when systems fall into a study track or fail a screen, codifies how utilities are considering solar and storage installation in Arizona and elsewhere.	The Commission acknowledges the supportive comment. No change is needed as a result of the comment.
R14-2-2604. CUSTOMER RIGHTS AND RESPONSIBILITIES	
Tesla stated that allowing customers the convenience of electronic signatures and the ability to request a 90-day extension shows that the Commission understands the need	The Commission acknowledges the supportive comment. No change is needed as a result of the

for customer convenience and the thought process behind making large investment decisions.	comment.
R14-2-2607. INSURANCE	
Grand Canyon State Electric Cooperative Association, Inc. ("GCSECA") expressed concerns about the DGI Rules' potentially jeopardizing a cooperative's ability to obtain financing from lenders, specifically the U.S. Department of Agriculture Rural Utilities Service ("RUS"). GCSECA stated that through 7 CFR § 1730.60 *et seq.*, RUS borrowers are subject to criteria regarding the interconnection of distributed resources to their systems. GCSECA stated that R14-2-2607's prohibition on requiring customers to provide general liability insurance coverage as a condition to interconnection conflicts with 7 CFR § 1730.63(c)(1), which requires RUS borrowers to require interconnecting customers to maintain "appropriate liability insurance." GCSECA further stated that at the December 2018 Open Meeting, Staff committed to working with the cooperatives to ensure that their Commission-approved Interconnection Manuals would not conflict with lender requirements. In light of this commitment, GCSECA stated that it does not oppose the DGI Rules.	The Commission agrees with GCSECA that the prohibition in R14-2-2607 potentially conflicts with 7 CFR § 1730.63(c)(1). Although addressing the potential conflict through Interconnection Manuals may be feasible, the Commission believes that it is preferable to resolve the potential conflict more transparently. Thus, the Commission has modified R14-2-2607 to provide an exception for cooperative utilities who obtain financing from RUS.
R14-2-2610. MINOR MODIFICATIONS	
Tesla stated that allowing customers the ability to make minor application changes reflects that the Commission understands the need for customer convenience and the thought process behind making large investment decisions.	The Commission acknowledges the supportive comment. No change is needed as a result of the comment.
R14-2-2617. LEVEL 1 SUPER FAST TRACK	
Tesla stated that reducing the super-fast-track processing to 14 days sets a standard that all utilities should easily be able to meet while providing customers with timely responses.	The Commission acknowledges the supportive comment. No change is needed as a result of the comment.
R14-2-2623. EXPEDITED INTERCONNECTION PROCESS	
Tesla stated that providing existing solar customers with the convenience of the fastest screening requirements when adding energy storage demonstrates that the Commission understands that energy storage can provide grid benefits to all customers and should be convenient for customers who choose to retrofit their solar systems with storage.	The Commission acknowledges the supportive comment. No change is needed as a result of the comment.
Sunrun stated that it believes customers installing non-exporting energy storage systems should be permitted to interconnect through an expedited permitting process requiring only notice to the utility, as is allowed by several utilities in the U.S.	While the Commission does not believe that a notification-only process is appropriate at this time, due to safety concerns, the Commission will continue to assess the appropriateness of such an option as greater interconnection of non-exporting energy storage systems occurs and more data

	becomes available. The Commission expects that energy storage systems will be further explored within the Energy Rules docket, RU-00000A-18-0284, and will direct Staff to conduct additional rulemaking related to those systems as appropriate.
R14-2-2627. ELECTRIC COOPERATIVES	
GCSECA stated that by giving cooperatives flexibility to propose their own timeframes for processing interconnection applications, R14-2-2627 addressed its concerns regarding cooperatives' ability to meet the timelines for processing interconnection applications due to their limited resources. GCSECA stated that the cooperatives support this provision.	The Commission acknowledges the supportive comment. No change is needed as a result of the comment.
Oral Comments and Questions on Notice of Proposed Rulemaking – Tucson Oral Proceeding 3/28/19	
Public Comment	**Commission Response**
THE DGI RULES GENERALLY	
Bruce Plenk, a TEP customer and solar consultant, stated that he is essentially very supportive of the DGI Rules, which he said cover the territory in a useful and productive way that will be helpful for those interested in installing DG. Mr. Plenk stated that the nonprofit group IREC rates states in a variety of solar and renewable energy areas, that Arizona has an A grade for net metering, and that Arizona has for many years had an F grade for interconnection. Mr. Plenk is optimistic that adoption of the DGI Rules will change Arizona's grade for interconnection to an A.	The Commission acknowledges the supportive comment. No change is needed as a result of the comment.
Justin Orkney spoke on behalf of TEP and UNSE, stating that TEP and UNSE had filed a letter of support in the docket and thanking Staff for its work in leading the thorough and highly collaborative process.	The Commission acknowledges the supportive comment. No change is needed as a result of the comment.
"STANDARDS" IN THE DGI RULES	
Mr. Plenk stated that the DGI Rules need to include more specificity and detail about the Interconnection Manual. Mr. Plenk acknowledged that Arizona law requires rules to state that no future editions or amendments to codes are included. Mr. Plenk stated that this creates an awkward situation with the Commission adopting a rule with the effect of law that will not conform with future changes in national codes that everyone agrees apply to DGI. Mr. Plenk stated that the rules, either in or near R14-2-2626(B), should require a utility's Interconnection Manual to comply with the most updated versions of codes (especially UL 1741 and UL 1741SA and IEEE 1547) and to be updated whenever the codes change. Mr. Plenk stated that there is nothing in the DGI Rules requiring that Interconnection Manuals be updated or providing how often they get reviewed.	As Mr. Plenk noted, the DGI Rules do not require utilities to submit their Interconnection Manuals to the Commission for review on a regular basis. The DGI Rules require submission of an Interconnection Manual within 90 days after the effective date of the rules and then whenever a revision is made. To ensure that each utility's Interconnection Manual is revised (and thus reviewed and approved) periodically, the Commission has added a requirement for each utility to revise its Interconnection Manual as needed to conform to Good Utility Practice.

	Additionally, the Commission has moved the proposed R14-2-2626(A) and (B) into a new Section, where they are clarified, and has moved substantive requirements from the definition of "Interconnection Manual" into the separate Section. The Commission has also added requirements for a utility's Interconnection Manual to specify, either within its main text or in an appendix to the Interconnection Manual, the version of each standard with which an applicant's generating facility must comply to be eligible for interconnection and parallel operation. Furthermore, to ensure safety as well as clarity and transparency, the Commission has added a requirement for inverters and advanced inverters to comply with the shutdown protective functions of IEEE 1547-2018, which is incorporated by reference. Staff's reluctance to include this incorporation by reference was due to Staff's belief that the standard will potentially be revised within the next two years. However, Staff intended for compliance with the standard to be required by Interconnection Manuals. Including an explicit incorporation by reference for IEEE 1547-2018 ensures that the Commission will be able to enforce the requirement for compliance with the standard. Additionally, the Commission believes that it is likely additional rulemaking will need to be done within the foreseeable future in any event because UL 1741 is also under review for revision.
Don McAdams, an energy service engineer for TEP, stated that he and Mr. Orkney will largely be responsible for writing TEP's Interconnection Manual. Mr. McAdams asked whether it is permissible, in the Interconnection Manual, for a utility to use language similar to what is used in material specifications when TEP purchases equipment from manufacturers. In its material specifications, TEP lists the standards and states that everyone must comply with the latest approved edition or revision. TEP does not specify the date, largely because it does not want to rewrite the material specifications every time a standard is updated. Mr. McAdams asked whether this strategy can be used with the Interconnection Manual so that the Interconnection Manual does not need to be reviewed and revised each year.	The Commission agrees that a utility can choose not to include the dates of required standards within the main body of its Interconnection Manual. However, the Commission believes that a utility using that approach must create a list (such as in the form of an appendix to its Interconnection Manual) that specifies the version of each standard with which the applicant's generating facility must comply. Otherwise, applicants or installers may not have adequate notice of the version of a standard with which the utility requires compliance. The Commission has modified the DGI Rules to include such a requirement.

R14-2-2605. UTILITY RIGHTS AND RESPONSIBILITIES	
Mr. Plenk asserted that language should be added to R14-2-2605(G) to prohibit a utility from unreasonably delaying interconnection of a generating facility that satisfies the requirements of the DGI Rules and the utility's Interconnection Manual. Mr. Plenk acknowledged that the DGI Rules include timelines for utility action, but stated that the rules impose no penalties if utilities fail to meet those timelines. Mr. Plenk expressed concern that a utility could take six months or a year to do something, in violation of the rules, if there is not a prohibition on unreasonably delaying a response. Mr. Plenk believes that adding such language would avoid confusion for an applicant who feels that a utility has unreasonably failed to comply with the timeline.	Staff did not support adding the suggested language to the rule. Staff stated that if a utility fails to comply with the timelines in the DGI Rules, a customer can initiate a formal complaint process with the Commission, as the utility would be in violation of a Commission rule. The Commission agrees with Staff's analysis. No change is needed as a result of the comment.
Oral Comments on Notice of Proposed Rulemaking – Phoenix Oral Proceeding 3/29/19	
Public Comment	**Commission Response**
THE RULEMAKING GENERALLY	
Mandalay commended Staff for working so hard on the rules and bringing them to fruition, stating that they were a hard project.	The Commission acknowledges the supportive comment. No change is needed as a result of the comment.
Mandalay again encouraged the Commission to add a waiver provision to the rules, stating that the majority of the Commission's rules include waiver, exemption, or variation provisions. Mandalay stated that discussion at the oral proceeding of the day before provided a perfect example of the need for such a provision—a situation when a utility may need to incorporate a more stringent standard in its Interconnection Manual, which Mandalay stated the DGI Rules would not allow without a waiver and exemption. Mandalay asserted that it makes sense to create a provision allowing greater transparency and allowing people to recognize what they need to do if there is a problem with the rules.	The Commission's response on this issue is the same as provided above. No change is needed as a result of this comment.
Mandalay supported Sonnen's written comments concerning reliance on nameplate capacity rather than operational capacity when defining "Maximum Capacity."	The Commission's response on this issue is the same as provided above. The Commission has modified the form of the definition to make it clearer.
Mandalay supported Sonnen's written comments concerning the need to tie any reference to a "standard" in the rules back to the Interconnection Manual. Mandalay stated that Sonnen did a very good job of laying out where the issue exists and stated that any referenced standards should be tied to something specific.	The Commission's response on this issue is the same as provided above. As noted above in response to Sonnen's comments, the Commission has revised the DGI Rules to clarify these provisions.
GCSECA stated that it supports Mandalay's request for a	The Commission's response on this issue is

waiver provision to be added to the rules. GCSECA asserted that making a waiver option explicit in the rules is preferable to relying on the Commission's authority to waive its rules, because an express provision provides clarity and certainty for all parties involved. GCSECA also opined that adding a waiver provision would not constitute a substantive change that would require the Commission to repeat the publication and oral proceeding processes.	the same as provided above. No change is needed as a result of this comment.
Arizona Public Service Company ("APS") expressed support for the DGI Rules and praised Staff for its efforts over a number of years in the face of changing technology and standards and different and even changing stakeholder positions. APS stated that the DGI Rules allow flexibility in some of the details in terms of cost sharing and study tracks and how the system needs to be operated safely and reliably. APS stated that the DGI Rules achieve a balance that allows APS to control its distribution system for the protection of all customers.	The Commission acknowledges the supportive comment. No change is needed as a result of the comment.
WRA expressed appreciation to Staff for its hard work and excellent job drafting the DGI Rules, which include changes suggested by utilities and the solar industry. WRA stated that the DGI Rules strike the right balance between ease of interconnection and maintaining the safety and reliability of the grid. WRA stated that no additional changes to the DGI Rules are necessary or should be considered, other than clarifying revisions mentioned by the ALJ at the Tucson oral proceeding. WRA asserted that the DGI Rules will become a benchmark and model for other states in the region and noted that WRA and solar parties are advocating to use them as the model for new interconnection rules in Colorado.	The Commission acknowledges the supportive comment. No change is needed as a result of the comment.

EXHIBIT F

NOTICE OF SUPPLEMENTAL PROPOSED RULEMAKING

TITLE 14. PUBLIC SERVICE CORPORATIONS; CORPORATIONS AND ASSOCIATIONS; SECURITIES REGULATION

CHAPTER 2. CORPORATION COMMISSION – FIXED UTILITIES

PREAMBLE

1. Citations to the agency's Notice of Rulemaking Docket Opening, the Notice of Proposed Rulemaking, and any other Notices of Supplemental Proposed Rulemaking (if applicable) as published in the *Register* as specified in R1-1-409(A). A list of any other related notices published in the *Register* to include those as specified in R1-1-409(A):

Notice of Rulemaking Docket Opening: 25 A.A.R. 376, February 15, 2019

Notice of Proposed Rulemaking: 25 A.A.R. 355, February 15, 2019

2. Articles, Parts, or Sections Affected (as applicable)	**Rulemaking Action**
Article 26	New Article
R14-2-2601	New Section
R14-2-2602	New Section
R14-2-2603	New Section
R14-2-2604	New Section
R14-2-2605	New Section
R14-2-2606	New Section
R14-2-2607	New Section
R14-2-2608	New Section
R14-2-2609	New Section
R14-2-2610	New Section
R14-2-2611	New Section
R14-2-2612	New Section
R14-2-2613	New Section
R14-2-2614	New Section
R14-2-2615	New Section
R14-2-2616	New Section
R14-2-2617	New Section
R14-2-2618	New Section
R14-2-2619	New Section
R14-2-2620	New Section
R14-2-2621	New Section
R14-2-2622	New Section

R14-2-2623	New Section
R14-2-2624	New Section
R14-2-2625	New Section
R14-2-2626	New Section
R14-2-2627	New Section
R14-2-2628	New Section

3. Citations to the agency's statutory rulemaking authority to include the authorizing statute (general) and the implementing statute (specific):

Authorizing statute: Arizona Constitution, Art. 15, §§ 3 and 13 and A.R.S. §§ 40-202 through 40-204, 40-321, 40-322, 40-332, 40-336, 40-361, and 40-374

Implementing statute: Arizona Constitution, Art. 15, §§ 3 and 13 and A.R.S. §§ 40-202 through 40-204, 40-321, 40-322, 40-332, 40-336, 40-361, and 40-374

4. The agency's contact persons who can answer questions about the rulemaking:

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Address: Arizona Corporation Commission
Utilities Division
1200 W. Washington St.
Phoenix, AZ 85007

Telephone: (602) 542-4382

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Name: Maureen Scott, Deputy Chief of Litigation and Appeals

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5. An agency's justification and reason why a rule should be made, amended, repealed or renumbered, to include an explanation about the rulemaking:

With this Notice of Supplemental Proposed Rulemaking ("NSPRM"), the Commission proposes to add a new Article 26, entitled "Interconnection of Distributed Generation Facilities" to 14 A.A.C. 2, the Chapter containing the Commission's rules for fixed utilities, with the new Article 26 including 28 new rules. The

rules for Interconnection of Distributed Generation Facilities ("DGI Rules") would establish mandatory technical standards, processes, and timelines for utilities to use for interconnection and parallel operation of different types of distributed generation ("DG") facilities; customer and utility rights and responsibilities; provisions for disconnection of DG facilities from the distribution system; specific safety requirements; more flexible standards for electric cooperatives; a reporting requirement; and a requirement for each utility to create, submit for initial approval and submit for approval periodically and when revised, and implement and comply with a Commission-approved Interconnection Manual.

On June 28, 2005, Congress passed the Energy Policy Act of 2005, published as Public Law 109-58 ("EPACT 2005"), which, *inter alia*, amended Section 111(d) of the Public Utility Regulatory Policies Act of 1978, published as Public Law 95-617 ("PURPA"), codified at 16 U.S.C. 2621(d), by adding the following:

> (15) Interconnection.--Each electric utility shall make available, upon request, interconnection service to any electric consumer that the electric utility serves. For purposes of this paragraph, the term "interconnection service" means service to an electric consumer under which an on-site generating facility on the consumer's premises shall be connected to the local distribution facilities. Interconnection services shall be offered based upon the standards developed by the Institute of Electrical and Electronics Engineers: IEEE Standard 1547 for Interconnecting Distributed Resources with Electric Power Systems, as they may be amended from time to time. In addition, agreements and procedures shall be established whereby the services are [sic] offered shall promote current best practices of interconnection for distributed generation, including but not limited to practices stipulated in model codes adopted by associations of state regulatory agencies. All such agreements and procedures shall be just and reasonable, and not unduly discriminatory or preferential.

EPACT 2005 also added, *inter alia*, the following language to PURPA Section 112(b), codified at 16 U.S.C. 2622(b):

> (5)(A) Not later than 1 year after the enactment of this paragraph, each State regulatory authority (with respect to each electric utility for which it has ratemaking authority) and each nonregulated utility shall commence the consideration referred to in section 111, or set a hearing date for consideration, with respect to the standard established by paragraph (15) of section 111(d).
>
> (B) Not later than two years after the date of the enactment of the this [sic] paragraph, each State regulatory authority (with respect to each electric utility for which it has ratemaking authority), and each nonregulated electric utility, shall complete the consideration, and shall make the determination, referred to in section 111 with respect to each standard established by paragraph (15) of section 111(d).

The consideration and determination to be made by each state regulatory authority was contained in Section 111(a) of PURPA, which provided:

> (a) CONSIDERATION AND DETERMINATION.—Each State regulatory authority (with respect to each electric utility for which it has ratemaking authority) and each nonregulated electric utility shall consider each standard established by subsection (d) and make a determination concerning whether or not it is appropriate to implement such standard to carry out the purposes of this title. For purposes of such consideration and determination in accordance with subsections (b) and (c), and for purposes of any review of such consideration and determination in any court in accordance with section 123, the purposes of this title supplement otherwise applicable State law. Nothing in this subsection prohibits any State regulatory authority or nonregulated electric utility from making any determination that it is not appropriate to implement any such standard, pursuant to its authority under otherwise applicable State law.

In Decision No. 69674 (June 28, 2007), the Commission adopted a modified version of the PURPA standard on interconnection:

> *Each electric utility shall make available, upon request, interconnection service to any electric consumer that the electric utility serves. For purposes of this paragraph, the term 'interconnection service' means service to an electric consumer under which an on-site generating facility on the consumer's premises shall be connected to the local distribution facilities. Interconnection services shall be offered based upon the Arizona Corporation Commission's rules for interconnection when such rules are adopted and become effective. Until such rules are adopted and become effective, the Interconnection Document shall serve as a guide for interconnection unless otherwise ordered by the Commission.*

The Commission also approved an Interconnection Document and ordered Commission Staff to begin a rulemaking process to convert the Interconnection Document into rules.

The DGI Rules are designed to fulfill the requirements of PURPA and EPACT 2005, as the ultimate culmination of the Commission's consideration and determination regarding the implementation of the 16 U.S.C. 2621(d)(15) standard for interconnection, because the DGI Rules establish standards and procedures concerning how regulated utilities must handle requests for interconnection and parallel operation of DG facilities. The DGI Rules build upon the Interconnection Document adopted in Decision No. 69674, and are designed to promote the three purposes of PURPA: "to encourage— (1) conservation of energy supplied by electric utilities; (2) the optimization of the efficiency of use of facilities and resources by electric utilities; and (3) equitable rates to electric consumers." (PURPA § 101.). In Decision No. 69674, the Commission found that having interconnection standards might facilitate the installation of DG, thus reducing the amount of energy to be supplied by electric utilities, and further found that the presence of DG

might improve the efficiency of utility electric facilities and thus reduce costs for electric consumers. Commission Staff has determined that DG systems provide benefits in the form of greater grid reliability, greater grid stability because of voltage support along transmission lines, increased system efficiency due to decreased transmission line losses, increased diversity of resources, decreased demand and cost pressures on natural gas and oil, and sustainability. Commission Staff further has determined that adoption of the DGI Rules, which would establish explicit and consistent standards and procedures for interconnection and parallel operation of DG facilities, should prevent increases in monetary and transaction costs for Commission-regulated utilities and their customers that can result from uncertainty. Additionally, Commission Staff has determined that the DGI Rules would adopt standards that promote current best practices of DGI for utilities, utility distribution systems, utility customers, and customers' generating facilities and would help to ensure the continued safe and reliable operation of the distribution systems while also enhancing long-term system planning.

The Commission finds that the Interconnection Document is insufficient to establish the standards and processes that the Commission considers necessary to adequately address DGI and that the adoption of the DGI Rules is necessary to ensure that all utilities use DGI best practices for interconnection and that applicants for interconnection and parallel operation of DG facilities are subjected to the same technical standards, have their applications handled according to the same standardized processes and timelines based on the DG facilities for which interconnection is requested, and are required to pay only the costs authorized by the Commission's rules for DGI or in Commission-approved utility tariffs. The Commission finds that failure to adopt rules for DGI could increase the risk of unsafe interconnection and parallel operation of DG facilities, which could result in conditions posing a risk to people and property, particularly in light of the technological changes in and increased adoption of generating facilities.

6. A reference to any study relevant to the rule that the agency reviewed and proposes either to rely on or not to rely on in its evaluation of or justification for the rule, where the public may obtain or review each study, all data underlying each study, and any analysis of each study and other supporting material:

Not applicable

7. An explanation of the substantial change which resulted in the supplemental notice:

The Commission has deleted R14-2-2628 as included in the Notice of Proposed Rulemaking ("NPRM"), along with an associated definition, and has moved the requirements from R14-2-2626(A) and (B) as included in the NPRM to a new R14-2-2628 regarding Interconnection Manuals. The new R14-2-2628 addresses formal comments received regarding the NPRM by addressing the contents for an Interconnection Manual, requiring a utility to revise its Interconnection Manual as necessary to conform to Good Utility Practice, and requiring a utility to implement and comply with its Commission-approved Interconnection Manual.

The Commission has also revised R14-2-2614(E) and R14-2-2625(E) to include an express requirement for each inverter in an inverter-based Generating Facility to meet the shutdown protective functions

(under/over voltage, under/over frequency, and anti-Islanding) specified in IEEE 1547-2018 – IEEE Standard for Interconnection and Interoperability of Distributed Energy Resources with Associated Electric Power Systems Interfaces (April 6, 2018), with no future editions or amendments, which is incorporated by reference; on file with the Commission; and published by and available from IEEE, 3 Park Avenue, 17th Floor, New York, New York 10016, and through http://ieeexplore.ieee.org.

For the NSPRM, the Commission has also made the following changes that are not considered to be substantial changes:

a. In R14-2-2618(C)(2)(a), deleting the language "or the Utility is notified within the specified time-frame,";
b. At the beginning of R14-2-2620(A)(2), adding the language "If the Customer desires to proceed with the Application,";
c. In R14-2-2623(B)(1) and (C)(1), adding a hyphen after "UL 1741" when it appears;
d. In R14-2-2601, deleting the definition of "QF" or "Qualifying Facility" because neither term now appears in the DGI Rules;
e. In R14-2-2620(E)(2)(c), replacing "2011" with "2014" to correct a clerical error;
f. In R14-2-2620(G), replacing "standards" with "screens" to clarify the requirement;
g. In R14-2-2601, restructuring the definition of "Maximum Capacity" to make it clearer, deleting the definition of "Installer," modifying the definition of "Interconnection Manual," and adding a definition for "RUS";
h. In R14-2-2607, adding exception language for cooperative utilities who obtain financing from RUS, and restructuring the rule;
i. In R14-2-2611(A)(1) and (2), R14-2-2614(E)(2), and R14-2-2623(B)(2) and (C)(2), standardizing the language used to refer to the codes and standards with which a Generating Facility must comply; and
j. Making minor stylistic changes or corrections to typographical errors in the following:
    i. The definitions of "Disconnect Switch" and "Interconnection Agreement" in R14-2-2601;
    ii. R14-2-2603(D), (D)(2) and (3), and (E);
    iii. R14-2-2604(D)(2)(a)(i) through (vii);
    iv. R14-2-2613(I);
    v. R14-2-2614(A);
    vi. R14-2-2615(C) and (E);
    vii. R14-2-2617(C)(2)(b) and (G);
    viii. R14-2-2618(C)(2)(b) and (G);
    ix. R14-2-2619(C)(1)(b) and (E);
    x. R14-2-2620(E)(1)(c)(iii) and (F);
    xi. R14-2-2623(C)(4);
    xii. R14-2-2626(C); and

xiii. R14-2-2627(A).

8. A showing of good cause why the rulemaking is necessary to promote a statewide interest if the rulemaking will diminish a previous grant of authority of a political subdivision:

Not applicable

9. The preliminary summary of the economic, small business, and consumer impact:

The persons most affected by the DGI Rules ("stakeholders") include:

a. Utilities that are under the Commission's jurisdiction and are providing electric utility service in Arizona ("regulated electric utilities"),

b. Customers receiving electric service in Arizona from regulated electric utilities and who seek to have generating facilities interconnected ("applicants"),

c. Customers receiving electric service in Arizona from regulated electric utilities and who do not seek to have generating facilities interconnected ("other customers")

c. Entities engaging in commerce directly related to DG technology and services ("industry participants"),

d. The general public, and

e. The Commission.

In many ways, the DGI Rules maintain the processes and standards by which regulated electric utilities have been guided pursuant to the Interconnection Document adopted by the Commission in Decision No. 69674 (June 28, 2007). To the extent that the provisions of the DGI Rules are the same or substantially similar to those in the Interconnection Document, the Commission considers the DGI Rules to maintain the status quo and thus not cause stakeholders an economic impact. However, the DGI Rules include the following major differences from the Interconnection Document adopted in Decision No. 69674, which have the potential to impact different stakeholders as noted in parentheticals:

a. They expand the scope of the Interconnection Document by establishing standards that:

   i. Apply to all generating facilities operated in electrical parallel, regardless of maximum capacity, that are interconnected with the distribution system of a regulated electric utility (benefitting all stakeholders by establishing technical and safety standards for systems previously excluded and benefitting industry participants by increasing business opportunities);

   ii. Do not prohibit "islandable systems" (benefitting all stakeholders by establishing technical and safety standards for systems previously excluded and benefitting industry participants by increasing business opportunities); and

   iii. Address energy storage systems (benefitting all stakeholders by establishing technical and safety standards for systems previously excluded and benefitting industry participants by increasing business opportunities);

b. They allow a customer to designate a representative to act on the customer's behalf regarding the interconnection and parallel operation process, to sign and submit documents electronically, to request

a one-time 90-day extension from the utility with simple notice, and not to have an extension unreasonably withheld for circumstances beyond the customer's control (primarily benefitting applicants, but also benefitting regulated electric utilities);

c. They rely upon the utility's Interconnection Manual to establish the codes, guides, and standards applicable to qualify generating facility equipment as certified equipment (benefitting regulated electric utilities, applicants, other customers, and the Commission);

d. Except when disconnection is done to make immediate distribution system repairs to prevent a danger, they require a utility to provide notice to a customer at least three days before disconnecting the customer's generating facility and to include in the notice the timing and estimated duration of the disconnection (benefitting applicants, burdening regulated electric utilities);

e. They establish a process and timeline for restoring interconnection when a generating facility was disconnected for failure to meet technical requirements (benefitting applicants, burdening regulated electric utilities);

f. They establish requirements for when there is a change of ownership of an interconnected generating facility (benefitting regulated electric utilities, burdening applicants);

g. They eliminate the dispute resolution process required by the Interconnection Document (benefitting regulated electric utilities and applicants);

h. They increase the maximum capacity for inverter-based generating facilities eligible to use the Level 1 Super Fast Track process from 10 kW to 20 kW (benefitting applicants, regulated electric utilities, and industry participants);

i. They add a Supplemental Review process that must be offered by a utility and can be requested by an applicant when interconnection of a generating facility cannot be approved under the Level 1, 2, or 3 Tracks (benefitting applicants and industry participants, burdening regulated electric utilities);

j. They increase the flexibility of one Screen for generating facilities, adapting it for higher capacity generating facilities, and include exceptions from three Screens for non-exporting systems and certain inadvertent export systems (benefitting applicants and regulated electric utilities);

k. They allow an applicant to request a Pre-Application Report from a utility and establish a process and timeline for completion of a Pre-Application Report (benefitting applicants and regulated electric utilities, burdening regulated electric utilities;

l. They establish timelines using calendar days rather than business days (benefitting all stakeholders), deem an application incomplete rather than denied (and eliminate the requirement for an applicant to start over with a new application) if a generating facility design does not satisfy an applicable Screen for the Level 1 Track or does not meet the utility's Interconnection requirements (benefitting applicants), and allow an applicant to request an extension of the 30-day period to submit additional information to the utility if an application is deemed incomplete (benefitting applicants);

m. They require a customer to submit to the utility a copy of final electrical clearance for the generating

facility issued by the authority having jurisdiction, if required (benefitting all stakeholders, burdening applicants);

n. They require a utility to verify compliance with specific requirements during a site inspection, if one is completed, rather than suggesting what the utility should verify (benefitting all stakeholders, burdening regulated electric utilities);

o. They impose a 30-day deadline after a failed site inspection for an applicant to correct any outstanding issues and provide notice of corrections to the utility (benefitting regulated electric utilities, burdening applicants), allow the utility a few additional days to complete reinspection (benefitting regulated electric utilities), and eliminate the reinspection fee unless a utility has a Commission-approved tariff authorizing such a fee (benefitting applicants);

p. They eliminate the provision that operating a generator in parallel without utility approval may result in immediate termination of electric service (benefitting applicants);

q. They allow a customer whose generating facility is processed under the Level 2 Fast Track or the Level 3 Study Track to modify the generating facility's operating characteristics, as agreed upon by the customer and utility, in order to reduce or eliminate improvements to the distribution system that would otherwise be necessary to accommodate interconnection (benefitting applicants);

r. They standardize the timing requirements for Feasibility Studies, System Impact Studies, and Facilities Studies (benefitting applicants);

s. They establish permanent standards and requirements for interconnection to secondary spot network systems, with a larger size limit for inverter-based units, replacing the pilot effort included in the Interconnection Document (benefitting all stakeholders by establishing technical and safety standards for systems previously excluded and benefitting industry participants by increasing business opportunities);

t. They establish a new Expedited Interconnection Process for non-exporting or inadvertent export generating facilities that have a maximum capacity of 20 kW or less and meet specified requirements (benefitting applicants and industry participants);

u. They allow a utility to require a customer to install and maintain a disconnect switch that meets specified standards and to impose additional requirements for disconnect switches in the utility's Interconnection Manual (benefitting regulated electric utilities, other customers, the general public, and the Commission, and burdening applicants);

v. They establish advanced grid support features for generating facilities utilizing inverter-based technology (benefitting regulated electric utilities, other customers, the general public, and the Commission);

w. They allow proposed revisions to a utility's Interconnection Manual to go into effect immediately if made to enhance health or safety, although the revisions are subject to subsequent review and approval by the Commission (benefitting regulated electric utilities, applicants, other customers, the general

public, and the Commission); allow Staff to contest and seek suspension of a proposed revision to a utility's Interconnection Manual (benefitting the Commission, burdening regulated electric utilities); and require a utility to file an updated Interconnection Manual with Docket Control within 10 days after the effective date of the decision approving the Interconnection Manual (benefitting applicants, the Commission, and industry participants, and burdening regulated electric utilities);

x. They add fields of information to be included in a utility's annual Interconnection Report to be filed with the Commission (benefitting the Commission and burdening regulated electric utilities);

y. They allow an electric cooperative's Commission-approved Interconnection Manual to impose substitute timelines with which the cooperative must comply in lieu of complying with the timelines in R14-2-2614 and R14-2-2616 through R14-2-2623 and require an electric cooperative to employ best reasonable efforts to comply with the deadlines established in the applicable provisions of the DGI Rules (benefitting regulated electric utilities that are cooperatives);

z. They require a regulated electric utility's Interconnection Manual to contain detailed technical, safety, and protection requirements necessary to interconnect a Generating Facility to the Distribution System in compliance with the DGI Rules and Good Utility Practice; and to specify by date, either in its main text or an appendix, the version of each standard with which an applicant's generating facility must comply to be eligible for interconnection and parallel operation (collectively benefitting applicants, industry participants, the general public, and the Commission, and burdening regulated electric utilities); and

aa. They require a regulated electric utility to submit its Interconnection Manual to the Commission for review and approval as necessary to ensure compliance with Good Utility Practice (benefitting the Commission, applicants, other customers, and the general public, and burdening regulated electric utilities and the Commission).

The Commission expects the potential costs identified above to be minimal for all stakeholders, although the safety-related benefits may be significant. A regulated electric utility may be able to obtain Commission approval for a tariff that would allow the utility to pass its additional reasonable and prudent costs through to applicants and possibly other customers. The Commission expects establishment of a consistent standard that explicitly establishes procedures for interconnection and parallel operation to increase investment certainty for regulated electric utilities, applicants, and industry participants.

In addition to the impacts identified above, the Commission will incur a minimal burden from purchasing the three standards incorporated by reference in the DGI Rules.

The Commission expects political subdivisions to be impacted by the rules only to the extent that they are applicants.

The Commission does not currently expect the DGI Rules to have more than a minimal impact on private and public employment in businesses, although that impact will increase as more applications for interconnection are submitted to regulated electric utilities.

The Commission expects small businesses to be impacted by the rules either as applicants, as industry participants, or as cooperative regulated electric utilities.

10. The agency's contact person who can answer questions about the economic, small business and consumer impact statement:

Name:	Patrick LaMere, Executive Consultant
Address:	Arizona Corporation Commission Utilities Division 1200 W. Washington St. Phoenix, AZ 85007
Telephone:	(602) 542-4382
E-mail:	PLaMere@azcc.gov
Web site:	www.azcc.gov

11. The time, place, and nature of the proceedings to make, amend, renumber or repeal the rule or, if no proceeding is scheduled, where, when, and how persons may request an oral proceeding on the supplemental proposed rule:

Date:	September 13, 2019
Time:	10:00 a.m.
Location:	Arizona Corporation Commission 1200 W. Washington St. Phoenix, AZ 85007
Nature:	Oral Proceeding

12. All agencies shall list other matters prescribed by statute applicable to the specific agency or to any specific rule or class of rules. Additionally, an agency subject to Council review under A.R.S. §§ 41-1052 and 41-1055 shall respond to the following questions:

Not applicable

a. Whether the rule requires a permit, whether a general permit is used and if not, the reasons why a general permit is not used:

Not applicable

b. Whether a federal law is applicable to the subject of the rule, whether the rule is more stringent than federal law and if so, citation to the statutory authority to exceed the requirements of federal law:

Not applicable

c. Whether a person submitted an analysis to the agency that compares the rule's impact of the competitiveness of business in this state to the impact on business in other states:

Not applicable

13. A list of any incorporated by reference material as specified in A.R.S. § 41-1028 and its location in the rules:

R14-2-2601(46): UL 1741: Underwriters Laboratories Inc. Standard for Inverters, Converters, Controllers and Interconnection System Equipment for Use with Distributed Energy Resources (February 15, 2018)

R14-2-2614(E)(1): IEEE 1547-2018 – IEEE Standard for Interconnection and Interoperability of Distributed Energy Resources with Associated Electric Power Systems Interfaces (April 6, 2018)
R14-2-2620(E)(2)(b): IEEE 1453, IEEE Recommended Practice for the Analysis of Fluctuating Installations on Power Systems (October 30, 2015)
R14-2-2620(E)(2)(c): IEEE 519 limits, IEEE Recommended Practice and Requirements for Harmonic Control in Electric Power Systems (June 11, 2014)

14. The full text of the rules follows:

TITLE 14. PUBLIC SERVICE CORPORATIONS; CORPORATIONS AND ASSOCIATIONS; SECURITIES REGULATION

CHAPTER 2. CORPORATION COMMISSION - FIXED UTILITIES

ARTICLE 26. INTERCONNECTION OF DISTRIBUTED GENERATION FACILITIES

R14-2-2601. Definitions

In this Article, unless otherwise specified:

1. "AC" means alternating current.
2. "Applicant" means a Customer or Representative who submits an Interconnection Application pursuant to this Article.
3. "Application" means the standard form or format for an Applicant to apply to a Utility for Interconnection of a Generating Facility with the Distribution System.
4. "Backfeed" means to energize a section of a Utility electric system with a Generating Facility.
5. "Calendar Day" means any day including Saturday, Sunday, or a Federal or State Holiday.
6. "Certified Equipment" means a specific generating and protective equipment system or systems certified as meeting the requirements in R14-2-2611 relating to testing, operation, safety, and reliability by an NRTL.
7. "Clearance" means documentation from a Utility stating that a line or equipment is disconnected from all known sources of power and tagged; that for safety purposes all proper precautionary measures have been taken; and that workers may proceed to inspect, test, and install ground on the circuit.
8. "CFR" means Code of Federal Regulations.
9. "Commission" means the Arizona Corporation Commission.
10. "Customer" means an electric consumer applying to connect a Generating Facility on the consumer's side of the Utility meter, whether an Exporting System, a Non-Exporting System, or an Inadvertent Export System.
11. "DC" means direct current.
12. "Disconnect Switch" means a device that:
    a. Is installed and maintained for a Generating Facility by the Customer;
    b. Is a visible-open, manual, gang-operated, load break disconnect device;
    c. Is capable of being locked in a visible-open position by a standard Utility padlock that will completely isolate the Generating Facility from the Distribution System; and
    d. If the voltage of the Generating Facility is over 500 volts, is capable of being grounded on the Utility side.
13. "Distributed Generation" means any type of Customer electrical generator, solid-state or static inverter, or Generating Facility interconnected with the Distribution System that either can be operated in electrical parallel with the Distribution System or can feed a Customer load that can also be fed by the Distribution System.
14. "Distribution System" means the infrastructure constructed, maintained, and operated by a Utility to deliver electric service at the distribution level (69 kV or less) to retail consumers.
15. "Electric Cooperative" means a Utility that is:
    a. Not operated for profit;
    b. Owned and controlled by its members; and

c. Operating as a public service company in this state.

16. "Exporting System" means any type of Generating Facility that is designed to regularly Backfeed the Distribution System.
17. "Facilities Study" means a comprehensive analysis of the actual construction needed to take place based on the outcome of a System Impact Study.
18. "Fault Current" means the level of current that can flow if a short circuit is applied to a voltage source.
19. "Feasibility Study" means a preliminary review of the potential impacts on the Distribution System that will result from a proposed Interconnection.
20. "Generating Facility" means all or part of a Customer's electrical generator(s), energy storage system(s), or any combination of electrical generator(s) and storage system(s), together with all inverter(s) and protective, safety, and associated equipment necessary to produce electric power at the Customer's facility; this includes solid-state or static inverters, induction machines, and synchronous machines.
21. "Good Utility Practice" means any of the practices, methods, and acts engaged in or approved by a significant portion of the electric industry during the relevant time period, or any of the practices, methods, and acts that, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with reliability, safety, and expedition. Good Utility Practice is not intended to be limited to the optimal practice, method, or act to the exclusion of all others, but rather to include practices, methods, or acts generally accepted in the region at the relevant time.
22. "IEEE" means the Institute of Electrical and Electronics Engineers, Inc.
23. "Inadvertent Export" means the unplanned, uncompensated transfer of electrical energy from a Generating Facility to the Distribution System across the Point of Interconnection.
24. "Interconnection" means the physical connection of a Generating Facility to the Distribution System.
25. "Interconnection Agreement" means an agreement, signed between the Utility and the Customer, covering the terms and conditions governing the Interconnection and operation of the Generating Facility with the Utility, and includes any appendices to the agreement.
26. "Interconnection Facilities" means the electrical wires, switches, and related equipment that are required, in addition to the facilities required to provide electric distribution service to a Customer, to allow Interconnection. Interconnection Facilities may be located on either side of the Point of Interconnection as appropriate to their purpose and design.
27. "Interconnection Manual" means a separate document developed and maintained by a Utility as required under R14-2-2628.
28. "Interconnection Study" means a study that may be undertaken by a Utility (or a Utility-designated third party) in response to the Utility's receipt of a completed Application. An Interconnection Study may include:

a. A Feasibility Study;

b. A System Impact Study;

c. A Facilities Study; and

d. Any additional analysis required by the Utility.

29. "Islanding" means a condition in which a portion of the Distribution System is energized solely by one or more local electric power systems throughout the associated Point of Interconnection while that portion of the Distribution System is electrically separated from the rest of the Distribution System. Islanding can be either intentional (planned) or unintentional (unplanned).

30. "Jurisdictional Electric Inspection Agency" means the governmental authority having jurisdiction to inspect and approve the installation of a Generating Facility.

31. "kW" means kilowatt.

32. "Maximum Capacity" means:

a. The nameplate AC capacity of a Generating Facility; or

b. If the Operating Characteristics of the Generating Facility limit the power transferred across the Point of Interconnection to the Distribution System, only the power transferred across the Point of Interconnection to the Distribution System, not including Inadvertent Export.

33. "MW" means megawatt.

34. "Non-Exporting System" means a system in which there is no designed, regular export of power from the Generating Facility to the Distribution System.

35. "NRTL" means a Nationally Recognized Testing Laboratory recognized by the U.S. Occupational Safety and Health Administration.

36. "Operating Characteristics" means the mode of operation of a Generating Facility (Exporting System, Non-Exporting System, or Inadvertent Exporting System) that controls the amount of power delivered across the Point of Interconnection to the Distribution System.

37. "Parallel Operation" means the operation of a Generating Facility that is electrically interconnected to a bus common with the Distribution System, either on a momentary or continuous basis.

38. "Protective Functions" means the equipment, hardware, or software in a Generating Facility that protects against Unsafe Operating Conditions.

39. "Point of Interconnection" means the physical location where the Utility's service conductors are connected to the Customer's service conductors to allow Parallel Operation of the Generating Facility with the Distribution System.

40. "Relay" means an electric device that is designed to interpret input conditions in a prescribed manner and, after specified conditions are met, to respond and cause contact operation or similar abrupt change in associated electric control circuits.

41. "Representative" means an agent of the Customer who is designated by the Customer and is acting on the Customer's behalf.

42. "RUS" means the U.S. Department of Agriculture Rural Utilities Service.

43. "Scoping Meeting" means an initial review meeting between a Utility and a Customer or Representative during which a general overview of the proposed Generating Facility design is discussed, and the Utility provides general information on system conditions at the proposed Point of Interconnection.
44. "Secondary Spot Network System" means an AC power Distribution System meeting the criteria in R14-2-2622.
45. "System Impact Study" means a full engineering review of the impact on the Distribution System from a Generating Facility, including power flow, Utility system protective device coordination, generator protection schemes (if not Certified Equipment), stability, voltage fluctuations, frequency impacts, and short circuit study. A System Impact Study may consider total nameplate capacity of the Generating Facility.
46. "UL 1741" means the Underwriters Laboratories Inc. Standard for Inverters, Converters, Controllers and Interconnection System Equipment for Use with Distributed Energy Resources (February 15, 2018), with no future editions or amendments, which is incorporated by reference; on file with the Commission; and published by and available from Underwriters Laboratories Inc., 151 Eastern Avenue Bensenville, IL 60106-3072 and through https://standardscatalog.ul.com.
47. "UL 1741SA" means the approved supplemental amendment of UL 1741 that defines the manufacturing (including software) and product testing requirements for advanced inverters.
48. "Unsafe Operating Conditions" means conditions that, if left uncorrected, could result in any of the following:
    1. Harm to personnel;
    2. Damage to equipment;
    3. An adverse effect to the safe operation of the Distribution System; or
    4. Operation of the Generating Facility outside pre-established parameters required by the Interconnection Agreement.
49. "Utility" means an electric distribution company that constructs, operates, and maintains its Distribution System for the receipt and delivery of electricity and that is a public service corporation under Arizona Constitution, Article 15, § 2.

R14-2-2602. Applicability

These rules apply to a Generating Facility operating (or to be operated) in parallel with a Distribution System of a Utility, subject to Commission jurisdiction after the effective date of this Article.

R14-2-2603. Types of Generating Facilities

A. A Customer may operate a Generating Facility as an Exporting System, a Non-Exporting System, or an Inadvertent Export System.

B. An Applicant shall declare the Maximum Capacity of a Generating Facility in its Application.

C. If an Applicant claims a Generating Facility is a Non-Exporting System:

1. The Utility may require an independent third-party certification ensuring that the system meets the following standards:
   a. Is able to supply part or all of the Customer's load continuously or during a Utility power outage;
   b. Is sized such that the export of power is not possible or includes control functions to prevent the export of power; and
   c. Has control functions that are listed by an NRTL for the purpose as used and are also inspected and approved by the Customer's Jurisdictional Electric Inspection Agency; and
2. The Applicant shall ensure that the Generating Facility utilizes any combination of equipment, hardware, or software, as specified by the Utility in its Interconnection Manual, to prevent the transfer of electrical energy to the Distribution System.

D. If an Applicant claims a Generating Facility is an Inadvertent Export system that does not utilize only UL 1741-certified or UL 1741SA-listed grid support non-islanding inverters:

1. The Utility may require additional protective functions and equipment to detect Distribution System faults;
2. The amount of Inadvertent Export to the Distribution System shall be limited to the lesser of the following values:
   a. 50% of the Generating Facility's Maximum Capacity;
   b. 10% of the continuous conductor rating in watts at 0.9 power factor for the lowest rated feeder conductor upstream of the Generating Facility; or
   c. 500 kW; and
3. The expected frequency of Inadvertent Export events shall be less than two occurrences per 24-hour period.

E. If an Applicant claims a Generating Facility is an Inadvertent Export system that utilizes only UL 1741-certified or UL 1741SA-listed grid support non-islanding inverters, the Generating Facility shall:

1. Utilize control functions that limit the export of electrical power to the Distribution System;
2. Have a Maximum Capacity of 500 kVA or less;
3. Have a magnitude of Inadvertent Export no more than 100 kVA;
4. Have a duration of Inadvertent Export of power of less than 30 seconds for any single event;
5. Monitor that its total energy export per month is maintained to be no more than its Maximum Capacity multiplied by 0.1 hours per day over a rolling 30-day period (e.g., a 100 kVA gross nameplate capacity Generating Facility would have a maximum energy export per 30-day month of 300 kWh);
6. Disconnect the Generating Facility from the Distribution System in the event of an Inadvertent Export, ceasing to energize the Distribution System or halting energy production, within two seconds after the period of uninterrupted export exceeds 30 seconds or the magnitude of export exceeds 100 kVA; and
7. Enter a safe operation mode, where Inadvertent Export events cannot occur, upon failure of the control or inverter system for more than 30 seconds, whether from loss of control signal, loss of control power, or a single component failure or related control sensing of the control circuitry.

R14-2-2604. Customer Rights and Responsibilities

A. A Customer has the following rights:

1. To designate a Representative to act on the Customer's behalf;
2. To submit an Application to interconnect a Generating Facility with a Distribution System;
3. To expect prompt and professional responses from a Utility during the Interconnection process;
4. To expect detailed and itemized good faith estimates of cost from the Utility;
5. To expect outlines, supporting data, and justification for proposed work before the Utility undertakes any studies or system upgrades to accommodate the Generating Facility;
6. To sign documents using an electronic (e-signature) method if the Customer has the technical capability to sign electronically and is submitting the documents electronically; and
7. To request a one-time 90-day extension from the Utility using a simple notification process and not to have an extension unreasonably withheld for circumstances beyond the Customer's control.

B. A Customer shall ensure that:

1. The Generating Facility meets or exceeds all minimum Interconnection, safety, and protection requirements outlined in this Article and the Utility's Interconnection Manual;
2. The Generating Facility meets all applicable construction codes, safety codes, electric codes, laws, and requirements of government agencies having jurisdiction;
3. The Generating Facility's Certified Equipment is installed and operated in a manner that protects the Generating Facility, Utility personnel, the public, and the Distribution System from harm;
4. The Generating Facility design, installation, maintenance, and operation minimize the likelihood of causing a malfunction in, damaging, or otherwise impairing the Distribution System;
5. The Generating Facility does not adversely affect the quality of service to other Utility consumers;
6. The Generating Facility does not hamper efforts to restore a feeder to service when a Clearance is required;
7. The Generating Facility is maintained in accordance with applicable manufacturers' maintenance schedules; and
8. The Utility is notified of any emergency or hazardous condition or occurrence involving the Generating Facility that could affect safe operation of the Distribution System.

C. A Customer shall pay for; lease or own; and be responsible for designing, installing, and operating all Interconnection Facilities located on the Customer's side of the Point of Interconnection.

D. A Customer shall ensure that Interconnection Facilities:

1. Are located on the Customer's premises; and
2. To enable delivery of power from the Generating Facility to the Distribution System at the Point of Interconnection, include:
    a. Necessary equipment for:
        i. Connection,
        ii. Transformation,
        iii. Switching,

iv. Protective relaying,

v. Metering,

vi. Communication, and

vii. Safety requirements;

b. A Disconnect Switch; and

c. Any other requirements outlined in this Article or specified by the Utility in its Interconnection Manual.

E. A Customer interconnecting a Generating Facility with the Distribution System shall:

1. Sign an Interconnection Agreement and all other applicable purchase, supply, and standby agreements; and
2. Comply with all applicable tariffs, rate schedules, and Utility service requirements.

F. A Customer shall not interconnect or cause Interconnection of a Generating Facility to the Distribution System without first executing an Interconnection Agreement with the Utility that operates the Distribution System.

R14-2-2605. Utility Rights and Responsibilities

A. A Utility shall interconnect a Generating Facility to the Distribution System, subject to the requirements of this Article and of the Utility's Interconnection Manual.

B. A Utility has the right to expect prompt, reasonable, and professional responses from a Customer during the Interconnection process.

C. A Utility shall require that an interconnected Generating Facility:

1. Not present any hazards to Utility personnel, other Utility consumers, or the public;
2. Minimize the possibility of damage to the Utility and to other Utility consumers' equipment;
3. Not adversely affect the quality of service to other Utility consumers; and
4. Not hamper efforts to restore a feeder to service when a Clearance is required.

D. A Utility shall notify a Customer if there is reason to believe that operation of the Customer's Generating Facility has caused disruption or deterioration of service to other Utility consumers served from the Distribution System or that such operation has caused damage to the Distribution System.

E. A Utility shall make its Interconnection Manual, standard Application, and Interconnection Agreements readily available to an Applicant in print and online formats.

F. Following the receipt of an Application, a Utility shall review the Generating Facility to ensure it complies with the applicable screens in R14-2-2615. If the Generating Facility design does not comply with the applicable screens in R-14-2-2615, an Interconnection Study may be required. Before the Utility undertakes any Interconnection Study or system upgrades that will be charged to the Applicant, the Utility shall provide the Applicant a detailed estimate of the cost, an outline of the proposed work, supporting data, and justification for the proposed work. If the results of an Interconnection Study necessitate additional Interconnection Facilities or upgrades, the Utility shall provide written notice to the Applicant of the Utility's intent to install the Interconnection Facilities or upgrades. The Applicant shall pay the Utility for Interconnection Facilities or

upgrades identified in the Interconnection Study except for those unrelated to the Generating Facility installation. The Utility shall provide the results of the Interconnection Study to the Applicant.

G. A Utility may not disapprove Interconnection of a Generating Facility that satisfies the requirements of this Article and the Utility's Interconnection Manual.

H. If additional Interconnection Facilities or upgrades are needed to accommodate a Generating Facility, and the Interconnection Facilities or upgrades will benefit the grid, the Utility shall reduce the charge of the Interconnection Facilities or upgrades to the Customer by the amount of benefits to the grid that are readily quantifiable by the Utility. A Utility shall not reject an Application on the basis of existing Distribution System conditions that are deficient, or charge a Customer for Interconnection Facilities or upgrades that are overdue or that will soon be required to ensure compliance with Good Utility Practice.

I. A Utility shall process each Application on a nondiscriminatory basis.

R14-2-2606. Easements and Rights-of-Way

A. Where an easement or right-of-way does not exist, but is required by a Utility to accommodate Interconnection, a Customer shall provide a suitable easement or right-of-way, in the Utility's name, on the premises owned, leased, or otherwise controlled by the Customer. If the required easement or right of way is on another's property, the Customer shall obtain and provide to the Utility a suitable easement or right-of-way, in the Utility's name, at the Customer's expense and in sufficient time to comply with Interconnection Agreement requirements.

B. A Utility shall use reasonable efforts to utilize existing easements to accommodate Interconnection.

C. A Utility shall use reasonable efforts to assist a Customer in securing necessary easements at the Customer's expense.

R14-2-2607. Insurance

A. Except as provided in subsection (D), a Utility shall not require a Customer to maintain general liability insurance coverage as a condition for Interconnection.

B. A Utility shall not require a Customer to negotiate any policy or renewal of any policy covering any liability through a particular insurance provider, agent, solicitor, or broker.

C. The provision in subsection (A) does not waive or otherwise foreclose any rights a Utility may have to pursue remedies at law against a Customer to recover damages.

D. A Utility that obtains financing from RUS may require a Customer to maintain liability insurance, to the extent necessary to meet the Utility's obligations to RUS.

R14-2-2608. Non-Circumvention

A. A Utility shall not directly or through an affiliate use knowledge of proposed Distributed Generation projects submitted to the Utility for Interconnection or study to initiate competing proposals to the Customer that offer discounted rates in return for not installing the Distributed Generation, or to offer the Customer competing Distributed Generation projects.

B. A Customer may share with a Utility or its affiliates information in the Customer's possession regarding a potential Distributed Generation project and may use such information to negotiate a discounted rate or other mutually beneficial arrangement with a Utility or its affiliate.

C. A Utility may inform a Customer of any existing or pending (awaiting approval by the Commission) rate schedule that may economically benefit, economically disadvantage, or otherwise affect the Customer's Distributed Generation project.

R14-2-2609. Designation of Contact Persons

A. Each Utility shall:

1. Designate a person or persons who will serve as the Utility's contact for all matters related to Distributed Generation Interconnection;
2. Identify to the Commission in its Interconnection Manual each designated Distributed Generation Interconnection contact person or persons; and
3. Provide convenient access through its website to the name, telephone number, mailing address, and email address for each Distributed Generation Interconnection contact person.

B. Each Applicant applying for Interconnection shall designate a contact person or persons and provide to the Utility the name, telephone number, mailing address, and email address for each contact person.

R14-2-2610. Minor Modifications

A Utility shall not reject or declare incomplete and require resubmission of a submitted Application if minor modifications must be made to the design of the Generating Facility or to other information on the Application (including ownership of Generating Facility) while the Application is being reviewed by the Utility or prior to completing the Interconnection of the Generating Facility.

R14-2-2611. Certification

A. To qualify as Certified Equipment, Generating Facility equipment proposed for use separately or packaged with other equipment in an Interconnection system shall:

1. Comply with all applicable codes and standards required by this Article and referenced in the Utility Interconnection Manual;
2. Comply with all applicable codes and standards used by an NRTL to test and certify Interconnection equipment; and
3. Be labeled and publicly listed as certified by the NRTL at the time of Application submission.

B. If Certified Equipment includes only interface components (switchgear, inverters, or other interface devices), a Customer shall show, upon request from the Utility, that the Generating Facility is compatible with the interface components and consistent with the testing and listing specified for the Interconnection equipment.

C. A Customer is not required to ensure that equipment provided by the Utility is Certified Equipment.

R14-2-2612. No Additional Requirements

If a Generating Facility complies with all applicable requirements of R14-2-2611, complies with the screens listed in R14-2-2615, and complies with the Utility's Interconnection Manual, a Utility shall not require the Customer to

install additional controls, or to perform or pay for additional tests, in order to obtain approval to interconnect, unless the Customer agrees to do so or the Commission so requires. A Utility may install additional equipment or perform additional testing at its own expense.

R14-2-2613. Disconnection from or Reconnection with the Distribution System

A. A Utility may disconnect a Generating Facility from the Distribution System under the following conditions:

1. Upon expiration or termination of the Interconnection Agreement with a Customer, in accordance with the terms of the Interconnection Agreement;
2. Upon determining that the Generating Facility is not in compliance with the technical requirements found within the Utility's Interconnection Manual;
3. Upon determining that continued Interconnection of the Generating Facility will endanger system operations, persons, or property, for the time needed to make immediate repairs on the Distribution System;
4. To perform routine maintenance, repairs, and system modifications; and
5. Upon determining that an Interconnection Agreement is not in effect for the Generating Facility.

B. A Utility and a Customer shall cooperate to restore the Generating Facility and the Distribution System to their normal operating states as soon as practicable.

C. A Customer may temporarily disconnect the Generating Facility from the Distribution System at any time. Such temporary disconnection shall not constitute a termination of the Interconnection Agreement unless the Customer has so specified in writing.

D. Except in the case of a disconnection under subsection (A)(3), a Utility shall provide notice to a Customer before disconnecting the Generating Facility. The Utility shall provide the Customer notice at least three calendar days prior to the impending disconnection and shall include in the notice the date, time, and estimated duration of the disconnection.

E. When a Generating Facility is disconnected under subsection (A)(2):

1. The Customer shall notify the Utility when the Generating Facility is restored to compliance with technical requirements;
2. The Utility shall, within five calendar days after receiving the Customer's notice, have an inspector verify the compliance; and
3. Upon verifying the compliance, the Utility shall, in coordination with the Customer, reconnect the Generating Facility.

F. A Utility shall reconnect a Generating Facility as quickly as practicable after determining that the reason for disconnection is remedied.

G. An Interconnection Agreement shall continue in effect after disconnection or termination of electric service to the extent and for the period necessary to allow or require the Utility or Customer to fulfill rights or obligations that arose under the agreement, notwithstanding subsection (H)(4). An Interconnection Agreement cannot be for a term less than the expected life of the Generating Facility, unless mutually agreed upon by the Customer and the Utility.

H. An Interconnection Agreement shall become effective on the effective date specified in the Interconnection Agreement and shall remain in effect thereafter unless and until:

1. It is terminated by mutual agreement of the Utility and Customer;
2. It is replaced by another Interconnection Agreement, with mutual consent of the Utility and Customer;
3. It is terminated by the Utility or the Customer due to a breach or default of the Interconnection Agreement; or
4. The Customer terminates Utility electric service, vacates or abandons the property on which the Generating Facility is located, or terminates or abandons the Generating Facility, without the Utility's agreement.

I. An Interconnection Agreement shall not be terminated in the event of the sale or lease of the property owned by the Customer. If the ownership of a Generating Facility changes, the Interconnection Agreement will remain in effect so long as the operation of the Generating Facility, as specified in the Interconnection Agreement, remains unchanged. The Customer shall provide notice to the Utility within seven calendar days in the event of a change in the ownership of the Generating Facility.

J. Upon termination of an Interconnection Agreement:

1. The Customer shall ensure that the electrical conductors connecting the Generating Facility to the Distribution System are immediately lifted and permanently removed, to preclude any possibility of interconnected operation in the future; and
2. The Utility may inspect the Generating Facility to verify that it is permanently disconnected.

R14-2-2614. Application and Generating Facility General Requirements

A. A Customer desiring to interconnect to the Distribution System a Generating Facility that is not a Non-Exporting inverter-based energy storage Generating Facility or an Inadvertent Export Generating Facility with a Maximum Capacity of 20 kW or less shall apply to the Utility for Interconnection as provided in this Section.

B. An Applicant shall submit an Application on a form provided by the Utility, or according to a format provided by the Utility, along with the following:

1. All supplemental information and documents required by the Utility, which shall be noted on the Utility's Application or Application instructions;
2. An executed Interconnection Agreement, if required by the Utility; and
3. An initial Application or processing fee, if a tariff containing such a fee is approved for the Utility by the Commission.

C. Upon request, a Utility shall provide an Applicant with sample diagrams that indicate the preferred level of detail and type of information required for a typical inverter-based system.

D. Within seven calendar days after receiving an Application, a Utility shall review the Application and provide the Applicant notice:

1. That the Application satisfies all requirements under subsection (B); or
2. That the Application does not satisfy one or more requirements under subsection (B), in which case:
   a. The Utility shall specify the additional information or documents required;

b. The Applicant shall submit the specified information or documents; and

c. The Application may be deemed withdrawn if the Applicant does not submit the required information or documents within 30 calendar days.

E. A Generating Facility shall comply with the following general requirements:

1. If inverter based, each inverter shall meet the shutdown protective functions (under/over voltage, under/over frequency, and anti-Islanding) specified in IEEE 1547-2018 – IEEE Standard for Interconnection and Interoperability of Distributed Energy Resources with Associated Electric Power Systems Interfaces (April 6, 2018), with no future editions or amendments, which is incorporated by reference; on file with the Commission; and published by and available from IEEE, 3 Park Avenue, 17th Floor, New York, New York 10016, and through http://ieeexplore.ieee.org;
2. The Generating Facility shall meet all applicable codes and standards required by this Article and referenced in the Utility Interconnection Manual; and
3. The Generating Facility shall comply with the Utility's Interconnection Manual and Interconnection Agreement requirements.

R14-2-2615. Screens

A. For Interconnection of a proposed Generating Facility to a distribution circuit, the aggregated generation on the circuit, including the proposed Generating Facility, shall not exceed 15% of the total circuit annual peak load as most recently measured at the substation or on the line section (if available), or the circuit hosting capacity limit; whichever is greater. Non-Exporting Systems, regardless of system size, and Inadvertent Export systems with a Maximum Capacity of 20 kW and under shall not be subject to this subsection.

B. A proposed Generating Facility shall not contribute more than 10% to a distribution circuit's maximum fault current at any point on the Distribution System, including during normal contingency conditions that may occur due to reconfiguration of the feeder or the distribution substation.

C. The proposed Maximum Capacity of a Generating Facility, in aggregate with the Maximum Capacity of other generation on a distribution circuit, shall not cause any distribution protective devices and equipment (including but not limited to substation breakers, fuse cutouts, and line reclosers), or consumer equipment on the system, to exceed 90% of the short circuit interrupting capability. Interconnection shall not be proposed for a circuit that already exceeds 90% of the short circuit interrupting capability.

D. A proposed Generating Facility shall be interconnected to the Distribution System as shown in the table below:

Primary Distribution Line Configuration	**Interconnection to Primary Distribution Line**
Three-phase, three wire	If a three-phase or single-phase Generating Facility, Interconnection shall be phase-to-phase
Three-phase, four wire	If a three-phase (effectively grounded) or single-phase Generating Facility, Interconnection shall be line-to-neutral

E. If a proposed Generating Facility is to be interconnected on single-phase shared secondary, the aggregate generation capacity on the shared secondary, including the proposed Maximum Capacity of the Generating Facility, shall not exceed 75% of the service transformer rating. Non-Exporting Systems and Inadvertent Export systems shall not be subject to this subsection.

F. If a proposed Generating Facility is single-phase and is to be interconnected on a transformer center tap neutral of a 240-volt service, its addition shall not create an imbalance between the two sides of the 240-volt service of more than 20% of the nameplate rating of the service transformer.

G. A proposed Generating Facility, in aggregate with other generation interconnected to the distribution low-voltage side of a substation transformer feeding the distribution circuit where the Generating Facility would interconnect, shall not exceed 10 MW in an area where there are known or posted transient stability limitations to generating units located in the general electrical vicinity (e.g., three or four transmission voltage level busses from the Point of Interconnection). Non-Exporting Systems, regardless of system size, and Inadvertent Export systems with a Maximum Capacity of 20 kW and under shall not be subject to this subsection.

H. A proposed Generating Facility's Point of Interconnection shall not be on a transmission line.

I. A proposed Generating Facility shall not exceed the capacity of the Customer's existing electrical service unless there is a simultaneous request for an upgrade to the Customer's electrical service or the Generating Facility is configured never to inject onto the feeder power that exceeds the capacity of the electrical service.

J. If a proposed Generating Facility is non-inverter based, the Generating Facility must comply with the Protective Function requirements and any additional Utility Interconnection requirements, which shall be specified by the Utility in its Interconnection Manual.

R14-2-2616. Pre-Application Report

A. An Applicant requesting a Pre-Application Report shall submit to a Utility:

1. The Applicant's contact information (name, address, phone, and email);
2. A proposed Point of Interconnection, sufficiently identified by latitude and longitude, site map, street address, meter number, account number, or some combination of those sufficient to identify the location of the Point of Interconnection;
3. A description of the proposed generation technology and fuel source; and
4. A non-refundable processing fee, if a tariff containing such a fee is approved for the Utility by the Commission.

B. An Applicant requesting a Pre-Application Report shall understand that:

1. The existence of "available capacity" does not mean that the Interconnection of a Generating Facility with a nameplate capacity that is equivalent to the available capacity may be completed without impacts, because the Pre-Application Report does not address all of the variables studied as part of the Interconnection review process;
2. The Distribution System is dynamic and subject to change; and

3. Data provided in the Pre-Application Report may become outdated and may not be useful at the time an Application is submitted.

C. Within 21 calendar days of receipt of a completed Pre-Application Report request, a Utility shall provide a Pre-Application Report, which shall include the following information, as available:

1. The total capacity (MW) of the substation/area bus or bank and circuit likely to serve the proposed site;
2. The allocated capacity (MW) of the substation/area bus or bank and circuit likely to serve the proposed site;
3. The queued capacity (MW) of the substation/area bus or bank and circuit likely to serve the proposed site;
4. The available capacity (MW) of the substation/area bus or bank and circuit most likely to serve the proposed site;
5. Whether the proposed Generating Facility is located on an area, spot, or radial network;
6. The substation nominal distribution voltage or nominal transmission voltage, if applicable;
7. The nominal distribution circuit voltage at the proposed site;
8. The approximate circuit distance between the proposed site and the substation;
9. The peak load estimate and minimum load data of each relevant line section, when available;
10. The number of protective devices and voltage regulating devices between the proposed site and the substation/area;
11. Whether three-phase power is available at the site and, if not, the distance of the site from three-phase service;
12. The limiting conductor rating from the proposed Point of Interconnection to the distribution substation; and
13. Based on the proposed Point of Interconnection, any existing or known constraints, such as, but not limited to, electrical dependencies at that location, short circuit interrupting capacity issues, power quality or stability issues on the circuit, capacity constraints, or secondary networks.

D. A Utility shall not be required to generate data for a Pre-Application Report and may include only pre-existing data. An Applicant request for a Pre-Application Report does not obligate the Utility to conduct a study or other analysis of the proposed project in the event that pre-existing data is not available. If a Utility cannot complete all or some of a Pre-Application Report due to lack of available data, the Utility shall provide the Applicant a Pre-Application Report that includes the information that is available and identifies the information that is unavailable. Notwithstanding any provisions of this Section, a Utility shall, in good faith, provide Pre-Application Report data that represents the best available information at the time of reporting.

E. A Utility may charge a fee for a Pre-Application Report if a tariff containing such a fee is approved for the Utility by the Commission.

R14-2-2617. Level 1 Super Fast Track

A. A Customer interconnecting an inverter-based Generating Facility with a Maximum Capacity of 20 kW or less, which only uses Certified Equipment, shall apply for Interconnection under the Level 1 Super Fast Track Application process.

B. To qualify for Level 1 Super Fast Track, the Generating Facility shall comply with R14-2-2615(A), (E), and (F).

C. The Level 1 Super Fast Track shall proceed as follows:

1. Within 14 calendar days following provision of notice under R14-2-2614(D)(1), the Utility shall review the Application and notify the Applicant of one of the following determinations:
   a. The Generating Facility design satisfies R14-2-2615(A), (E), and (F) and meets all Interconnection requirements and the Application is therefore deemed complete and approved for Interconnection; or
   b. The Generating Facility design does not satisfy one or more of the requirements listed in R14-2-2615(A), (E), or (F) or does not meet one or more of the Utility's Interconnection requirements, which shall be specified, and the Application is therefore deemed incomplete and not approved for Interconnection.
2. If the Utility's determination falls under subsection (C)(1)(b), the Applicant shall notify the Utility within 30 calendar days whether it wishes to proceed with the Interconnection.
   a. Except as provided in subsection (D), if the Applicant does not provide notice within 30 calendar days that it wishes to proceed with the Interconnection, the Application may be considered withdrawn.
   b. If the Applicant wishes to proceed with the Interconnection, the Applicant shall submit to the Utility, within 30 calendar days, any Utility-specified additional information or modifications to the Generating Facility, along with one of the following:
      i. A request that the Utility continue to process the Application under this section; or
      ii. A request that the Utility process the Application in accordance with R14-2-2620.
3. Once an Application is approved, the Generating Facility shall be subject to R14-2-2621.

D. An Applicant may, within 30 calendar days after receiving notice under subsection (C)(1)(b), submit a request for an extension of the 30-day period allowed for submissions under subsection (C)(2)(b).

E. After receiving a submission under subsection (C)(2)(b), a Utility shall again follow the process of subsection (C).

F. A Utility may not charge a fee for an additional review under subsection (C), unless a tariff containing such a fee is approved for the Utility by the Commission.

G. A Customer shall be responsible for any costs of Utility facilities and equipment modifications necessary to accommodate the Customer's Interconnection.

H. If the Generating Facility's operating characteristics can be modified such that improvements to the Distribution System are reduced or not required, and both the Utility and Customer agree on the operating characteristics, the Customer shall have the opportunity to modify the Generating Facility's operating characteristics to reduce facility costs.

R14-2-2618. Level 2 Fast Track

A. A Customer interconnecting a Generating Facility with a Maximum Capacity of less than 2 MW, excluding a Generating Facility processed in accordance with R14-2-2617, shall apply for Interconnection under the Level 2 Fast Track Application process.

B. To qualify for the Level 2 Fast Track, the Generating Facility shall comply with R14-2-2615(A) through (J).

C. The Level 2 Fast Track shall proceed as follows:

1. Within 21 calendar days following provision of notice under R14-2-2614(D)(1), the Utility shall review the Application and notify the Applicant of one of the following determinations:
   a. The Generating Facility design satisfies R14-2-2615(A) through (J) and meets all Interconnection requirements and the Application is therefore deemed complete and approved for Interconnection; or
   b. The Generating Facility design does not satisfy one or more of the requirements listed in subsections R14-2-2615(A) through (J) or does not meet one or more of the Utility's Interconnection requirements, which shall be specified, and the Application is therefore deemed incomplete and not approved for Interconnection.
2. If the Utility's determination falls under subsection (C)(1)(b), the Applicant shall notify the Utility within 30 calendar days whether it wishes to proceed with the Interconnection.
   a. Except as provided in subsection (D), if the Applicant does not provide notice within 30 calendar days that it wishes to proceed with the Interconnection, the Application may be considered withdrawn.
   b. If the Applicant wishes to proceed with the Interconnection, the Applicant shall submit to the Utility, within 30 calendar days, any Utility-specified additional information or modifications to the Generating Facility, along with one of the following:
      i. A request that the Utility continue to process the Application under this section;
      ii. A request that the Utility process the Application in accordance with R14-2-2619; or
      iii. A request that the Utility process the Application in accordance with R14-2-2620.
3. Once an Application is approved, the Generating Facility shall be subject to R14-2-2621.

D. An Applicant may, within 30 calendar days after receiving notice under subsection (C)(1)(b), submit a request for an extension of the 30-day period allowed for submissions under subsection (C)(2)(b).

E. After receiving a submission under subsection (C)(2)(b), a Utility shall again follow the process under subsection (C).

F. A Utility may not charge a fee for an additional review under subsection (C), unless a tariff containing such a fee is approved for the Utility by the Commission.

G. A Customer shall be responsible for any costs of Utility facilities and equipment modifications necessary to accommodate the Interconnection.

H. If the Generating Facility's operating characteristics can be modified such that improvements to the Distribution System are reduced or not required, and both the Utility and Customer agree on the operating characteristics, the Customer shall have the opportunity to modify the Generating Facility's operating characteristics to reduce facility costs.

R14-2-2619. Level 3 Study Track

A. A Customer interconnecting a Generating Facility with a Maximum Capacity of 2 MW or greater, or a Generating Facility that does not meet the screening requirements for Level 1 Super Fast Track, Level 2 Fast Track, or Supplemental Review, shall apply for Interconnection under the Level 3 Study Track Application process.

B. An Applicant may request a pre-application meeting with the Utility to discuss the proposed design, installation, and operation of the Generating Facility prior to submission of an Application.

C. The Level 3 Study Track shall proceed as follows:

1. Within 14 calendar days after transfer from Level 1 Super Fast Track, transfer from Level 2 Fast Track, or transfer from Supplemental Review, a Utility shall review the Application and provide the Applicant notice:
   a. That the Application satisfies all requirements under R14-2-2614(B); or
   b. That the Application does not satisfy one or more requirements under R14-2-2614(B), in which case:
      i. The Utility shall specify the additional information or documents required;
      ii. The Applicant shall submit the specified information or documents; and
      iii. The Application may be deemed withdrawn if the Applicant does not submit the required information or documents within 30 calendar days.
2. Within 30 calendar days following provision of notice under (C)(1)(a) or R14-2-2614(D)(1), the Utility shall review the Application and notify the Applicant of one of the following determinations:
   a. The Generating Facility design appears to meet all of the applicable Interconnection requirements; no further studies, special protective requirements, or system modifications are required; and the Application is deemed complete and approved for Interconnection; or
   b. The Generating Facility does not meet one or more of the Utility's Interconnection requirements, which shall be specified, and cannot be interconnected without further information, data, engineering studies, or modifications to the Distribution System or Generating Facility; the Interconnection shall proceed according to a meeting and study process deemed necessary by the Utility; itemized costs and timelines for the studies will be disclosed and agreed upon by the Utility and Applicant prior to the start of each one; and all studies will be made available to the Applicant.
3. Within 21 calendar days after notice is provided under subsection (C)(2)(b), a Scoping Meeting may be conducted to discuss which studies are needed, and the Utility shall provide to the Customer at the Scoping Meeting an acknowledgement letter describing the project scope and including a good faith estimate of the cost.
4. If requested by the Customer, the Utility shall undertake a Feasibility Study. The Utility shall provide the Customer, within 14 calendar days after the Scoping Meeting, a Feasibility Study agreement including an outline of the scope of the study and a non-binding, good faith estimate of the cost of the materials and labor needed to perform the study. The Utility shall conduct the Feasibility Study after the Customer

executes the Feasibility Study agreement, provides all requested information necessary to complete the Feasibility Study, and pays the estimated costs.

a. The Feasibility Study shall be completed within 45 calendar days.

b. The Feasibility Study:

i. Shall include review of short circuit currents, including contribution from the proposed generator, as well as coordination of and potential overloading of distribution circuit protection devices;

ii. Shall provide initial details and ideas on the complexity and likely costs to interconnect prior to commitment of costly engineering review; and

iii. May be used to focus or eliminate some or all of the more intensive System Impact Study.

5. If deemed necessary by the Customer or the Utility, the Utility shall undertake a System Impact Study. The Utility shall provide the Customer, within 14 calendar days after completing the previous study or meeting, a System Impact Study agreement including an outline of the scope of the study and a non-binding, good faith estimate of the cost of the materials and labor needed to perform the study. The Utility shall conduct the System Impact Study after the Customer executes the System Impact Study agreement, provides all requested Customer information necessary to complete the System Impact Study, and pays any required deposit of the estimated costs.

a. The System Impact Study shall be completed within 45 calendar days.

b. The System Impact Study shall reveal all areas where the Distribution System would need to be upgraded to allow the Generating Facility to be built and interconnected as designed and may include discussions with the Customer about potential alterations to generator design, including downsizing to limit grid impacts, as well as operational limits that would limit grid impacts if implemented.

c. If the Utility determines, in accordance with Good Utility Practice, that the Distribution System modifications required to accommodate the proposed Interconnection are not substantial, the System Impact Study shall identify the scope and detailed cost of the modifications.

d. If the Utility determines, in accordance with Good Utility Practice, that the system modifications to the Distribution System are substantial, a Facilities Study shall be performed.

e. Each Utility shall include in its Interconnection Manual a description of the various elements of a System Impact Study it would typically undertake pursuant to this Section, including:

i. Load flow study;

ii. Short-circuit study;

iii. Circuit protection and coordination study;

iv. Impact on system operation;

v. Stability study, and the conditions justifying inclusion; and

vi. Voltage collapse study, and the conditions justifying inclusion.

6. The Utility shall undertake a Facilities Study if needed based on the outcome of the System Impact Study. The Utility shall provide the Customer, within 14 calendar days after completing the previous study or

meeting, a Facilities Study agreement including an outline of the scope of the study and a non-binding, good faith estimate of the cost of the materials and labor needed to perform the study. The Utility shall conduct the Facilities Study after the Customer executes the Facilities Study agreement, provides all requested Customer information necessary to complete the study, and pays the estimated costs.

a. The Facilities Study shall be completed within 45 calendar days.

b. The Facilities Study shall delineate the detailed costs of construction and milestones. Construction may include new circuit breakers, relocation of reclosers, new Utility grid extensions, reconductoring lines, new transformers, protection requirements, and interaction.

7. If the Generating Facility meets all of the applicable Interconnection requirements, all items identified in any meeting or study have been resolved and agreed to, and the Utility has received the final design drawings, then:

a. The Utility shall send to the Customer, within seven calendar days, an executable Interconnection Agreement, which shall include as an exhibit the cost for any required Distribution System modifications;

b. The Customer shall review, sign, and return the Interconnection Agreement and any balance due for Interconnection studies or required deposit for facilities; and

c. The Customer shall then complete installation of the Generating Facility, and the Utility shall complete any Distribution System modifications, according to the requirements set forth in the Interconnection Agreement. The Utility shall employ best reasonable efforts to complete such system upgrades in the shortest time practical.

8. Once an Application is approved, the Generating Facility shall be subject to R14-2-2621.

D. A Utility may not charge a fee for an additional review under subsection (C), unless a tariff containing such a fee is approved for the Utility by the Commission.

E. A Customer shall have the responsibility for any costs of Utility facilities and equipment modifications necessary to accommodate the Customer's Interconnection.

F. If the Generating Facility's operating characteristics can be modified such that improvements to the Distribution System are reduced or not required, and both the Utility and Customer agree on the operating characteristics, the Customer shall have the opportunity to modify the Generating Facility's operating characteristics to reduce facility costs.

R14-2-2620. Supplemental Review

A. If a Utility determines that an Application for Interconnection cannot be approved without conducting a Supplemental Review, or if requested by the Applicant:

1. The Utility shall, within seven calendar days of making the determination or receiving the request, provide the Applicant a good faith estimate of the cost of the Supplemental Review and a written agreement setting forth the terms of the Supplemental Review; and

2. If the Customer desires to proceed with the Application, the Customer shall, within 14 calendar days of receipt of the good faith estimate and written agreement, sign the written agreement and submit to the Utility a deposit for the full estimated cost of the Supplemental Review.

B. The Applicant may specify the order in which the Utility will complete the screens in subsection (E).

C. The Applicant shall be responsible for the Utility's actual costs for conducting a Supplemental Review and must pay any review costs exceeding the deposit amount within 30 calendar days of receipt of an invoice for the balance, or resolution of any dispute as to those costs. If the deposit amount exceeds the actual costs of the Supplemental Review, the Utility shall return such excess to the Customer, without interest, within 30 calendar days of completing the Supplemental Review.

D. Within 21 calendar days following receipt of the deposit for a Supplemental Review, the Utility shall:

1. Perform a Supplemental Review by determining compliance with the screens in subsections (E)(1), (2), and (3);
2. Unless the Applicant has previously provided instructions for how to respond to the Generating Facility's failure to meet any of the Supplemental Review screens:
   a. Notify the Applicant following the failure of any of the screens; and
   b. If the Utility is unable to determine compliance with the screen in subsection (E)(1), notify the Applicant within two calendar days of making such determination and request the Applicant's permission to:
      i. Continue evaluating the Interconnection under subsection (E);
      ii. Terminate the Supplemental Review and continue evaluating the Generating Facility under R14-2-2619; or
      iii. Terminate the Supplemental Review upon withdrawal of the Interconnection request by the Applicant; and
3. Notify the Applicant of the results of the Supplemental Review along with copies of the analysis and data underlying the Utility's determinations of compliance with the screens.

E. A Utility shall apply the following screens in its Supplemental Review:

1. A minimum load screen:
   a. If 12 months of line section minimum load data (including onsite load but not station service load served by the Generating Facility) are available, can be calculated, can be estimated from existing data, or can be determined from a power flow model, the aggregate Generating Facility Maximum Capacity on the line section shall be less than 100% of the minimum load for all line sections bounded by automatic sectionalizing devices upstream of the Generating Facility.
   b. If 12 months of line section minimum load data are not available, or cannot be calculated, estimated, or determined, the Utility shall include in its Supplemental Review results notification under subsection (D) each reason that it is unable to calculate, estimate, or determine minimum load.
   c. In making its determination of compliance with subsections (E)(1)(a) and (b), the Utility shall:

i. Consider the type of generation used by the Generating Facility when calculating, estimating, or determining the circuit or line section minimum load, using daytime minimum load for solar photovoltaic generation systems with no battery storage (i.e., 10 a.m. to 4 p.m. for fixed panel systems and 8 a.m. to 6 p.m. for solar photovoltaic generation systems utilizing tracking systems), and using absolute minimum load for all other generation;

ii. For a Generating Facility that serves some station service load, consider only the net injection into the Utility's electric system as part of the aggregate generation; and

iii. Not consider as part of the aggregate generation Generating Facility capacity known to be reflected already in the minimum load data.

2. A voltage and power quality screen: In aggregate with existing Maximum Capacity on the line section:

a. Voltage regulation on the line section shall be maintained in compliance with relevant requirements under all system conditions;

b. Voltage fluctuation shall be within acceptable limits as defined by IEEE 1453, IEEE Recommended Practice for the Analysis of Fluctuating Installations on Power Systems (October 30, 2015), with no future editions or amendments, which is incorporated by reference; on file with the Commission; and published by and available from IEEE, 3 Park Avenue, 17th Floor, New York, New York 10016, and through http://ieeexplore.ieee.org; and

c. Harmonic levels shall meet IEEE 519 limits, IEEE Recommended Practice and Requirements for Harmonic Control in Electric Power Systems (June 11, 2014), with no future editions or amendments, which is incorporated by reference; on file with the Commission; and published by and available from IEEE, 3 Park Avenue, 17th Floor, New York, New York 10016, and through http://ieeexplore.ieee.org.

3. A safety and reliability screen: The location of the Generating Facility and the aggregate Maximum Capacity on the line section shall not create impacts to safety or reliability that cannot be adequately addressed without application of the Interconnection Study process. In making this determination regarding potential impacts to safety and reliability, the Utility shall give due consideration to the following, and any other relevant factors:

a. Whether the line section has significant minimum loading levels dominated by a small number of customers (e.g., several large commercial customers);

b. Whether the loading along the line section is uniform or even;

c. Whether the Generating Facility is located in close proximity to the substation (i.e., within less than 2.5 electrical circuit miles);

d. Whether the line section from the substation to the Point of Interconnection is a main feeder line section rated for normal and emergency ampacity;

e. Whether the Generating Facility incorporates a time delay function to prevent reconnection of the generator to the system until system voltage and frequency are within normal limits for a prescribed time;

f. Whether operational flexibility is reduced by the Generating Facility, such that transfer of the line section(s) of the Generating Facility to a neighboring distribution circuit/substation may trigger overloads or voltage issues; and

g. Whether the Generating Facility employs equipment or systems certified by a recognized standards organization to address technical issues such as, but not limited to, Islanding, reverse power flow, or voltage quality.

F. If the Interconnection satisfies subsection (E), the Application shall be approved for Interconnection, and the Utility shall provide the Applicant notice of the Supplemental Review results.

G. If Interconnection Facilities or minor modifications to the Utility's system are required for the Interconnection to meet the screens in subsection (E), the Utility shall notify the Applicant and request for the Applicant to pay for the modifications. If the Applicant agrees to pay for the modifications to the Utility's electric system, the Utility shall provide an Interconnection Agreement, along with a non-binding good faith estimate of the cost for the Interconnection Facilities and minor modifications, to the Applicant within seven calendar days after the Applicant agrees to pay for the modifications.

H. If more than Interconnection Facilities or minor modifications to the Utility's system would be required for the Interconnection to meet the screens in subsection (E), the Utility shall notify the Applicant, at the same time it notifies the Applicant of the Supplemental Review results, that the Interconnection request shall be evaluated under R14-2-2619, unless the Applicant withdraws its Application.

I. If the Interconnection fails any of the screens in subsection (E), and the Applicant does not withdraw its Application, the Utility shall continue to evaluate the Application under R14-2-2619.

R14-2-2621. Utility Site Inspection; Approval for Parallel Operation

A. Once an Application is approved for Interconnection:

1. If the Utility has not received an executed Interconnection Agreement, the Utility shall send to the Customer, within seven calendar days after the notice of Application approval, the appropriate Interconnection Agreement for review and signature;
2. If required, the Customer shall submit to the Utility a copy of the final electrical clearance for the Generating Facility issued by the authority having jurisdiction;
3. The Customer shall submit all necessary supplemental documents as specified by the Utility; and
4. A site inspection shall be performed if deemed necessary by the Utility or requested by the Customer.

B. Within seven calendar days after a site inspection is deemed necessary by the Utility, or requested by the Customer, the Utility shall perform a site inspection for which it may charge a fee, if a tariff containing such a fee is approved for the Utility by the Commission. During a site inspection, the Utility shall verify at least the following:

1. The Generating Facility is in compliance with all applicable Interconnection and code requirements;
2. All Generating Facility equipment is properly labeled;

3. The Generating Facility system layout is in accordance with the plant location and site plans submitted to the Utility;
4. The inverter nameplate ratings are consistent with the information submitted to the Utility;
5. The Utility has unrestricted 24-hour access to the Utility-owned production meter and Disconnect Switch, and the Disconnect Switch meets all applicable requirements;
6. The inverter shuts down as required upon simulated loss of Utility voltage; and
7. To the extent visible, the Generating Facility appears to be wired in accordance with the electrical diagrams submitted to the Utility.

C. The Utility shall install appropriate metering equipment, if required. The Utility may require the Customer to pay for the metering equipment, if a tariff containing such a fee is approved for the Utility by the Commission.

D. Within three calendar days of the completion of the site inspection and the receipt of all final applicable signed Interconnection documents, the Utility shall determine whether the Generating Facility meets all applicable requirements and shall notify the Customer that:

1. The Generating Facility is approved for Parallel Operation with the Distribution System per the agreed terms and conditions; or
2. The Generating Facility has failed the site inspection because it does not meet one or more of the applicable requirements, which shall be specified; the Generating Facility is not approved for Parallel Operation; and specified actions must be taken by the Customer to resolve the issue and to obtain approval for Parallel Operation.

E. If the Generating Facility fails the initial Utility site inspection:

1. The Applicant shall, within 30 calendar days of the initial site inspection, correct any outstanding issues and notify the Utility that all corrections have been made, or the Application may be deemed withdrawn unless alternative arrangements have been made by the Customer with the Utility; and
2. The Utility shall, within 14 calendar days of the Applicant notice of correction, perform a repeat inspection of the Generating Facility, for which the Utility may charge a fee, if a tariff containing such a fee is approved for the Utility by the Commission.

F. A Utility may take any reasonable actions, including locking open a Disconnect Switch, to prevent Parallel Operation for:

1. A Generating Facility that fails a site inspection; or
2. A Customer who operates a Generating Facility in parallel without Utility approval.

G. If a Customer does not interconnect a Generating Facility within 180 calendar days after Application approval, the Customer's Application may be considered withdrawn.

R14-2-2622. Interconnection to a Secondary Spot Network System

A. A Secondary Spot Network System is a system that:

1. Simultaneously serves a Customer from three-phase, four-wire, low-voltage (typically 480V) circuits supplied by two or more network transformers which have low-voltage terminals that are connected to the

low-voltage circuits through network protectors without ties to adjacent or nearby secondary network systems;

2. Has two or more high-voltage primary feeders that are either dedicated network feeders that serve only other network transformers, or non-dedicated network feeders that serve radial transformers in addition to the network transformers, depending on network size and design; and
3. Has automatic protective devices and fuses intended to isolate faulted primary feeders, network transformers, or low-voltage cable sections while maintaining uninterrupted service to the consumers served from the low-voltage circuits.

B. Because interconnecting a Generating Facility to a Secondary Spot Network System implicates technical requirements that are particular to the design and operational aspects of network protectors that are not required on radial systems, the Utility shall determine the process for interconnecting to a Secondary Spot Network System, subject to the following:

1. A Generating Facility shall not be interconnected to the load side of spot network protectors unless the Generating Facility uses an inverter-based equipment package and, together with the aggregated other inverter-based generation, does not exceed the smaller of 5% of the Secondary Spot Network System's maximum load or 50 kW; and
2. Interconnection of a Generating Facility shall not result in a Backfeed of a Secondary Spot Network System or cause unnecessary operation of any Secondary Spot Network System protectors.

R14-2-2623. Expedited Interconnection Process

A. A Customer interconnecting a Non-Exporting inverter-based energy storage Generating Facility or an Inadvertent Export Generating Facility with a Maximum Capacity of 20 kW or less may apply for Interconnection under the Expedited Interconnection Process. In order to qualify for the Expedited Interconnection Process, the Customer's Generating Facility must meet the applicable conditions specified in subsections (B) and (C).

B. For a Customer interconnecting a Non-Exporting Generating Facility:

1. The Generating Facility shall utilize only UL 1741- and UL 1741SA-listed equipment;
2. The Generating Facility shall meet all applicable codes and standards required by this Article and referenced in the Utility Interconnection Manual;
3. The Generating Facility shall comply with Utility Interconnection and contractual requirements;
4. The Generating Facility shall be a Non-Exporting inverter-based energy storage device with an aggregate maximum nameplate rating no greater than 500 kW;
5. No other Generating Facilities, other than isolated back-up Generating Facilities, may be at the same Point of Interconnection as the Generating Facility;
6. The Generating Facility shall comply with R14-2-2615(F); and
7. The Generating Facility shall comply with one of the following:

a. The system capacity shall be less than 25% of the electrical service entrance ampere rating, and less than 50% of the service transformer rating; or

b. The system output rating shall be less than 50% of the verifiable Customer minimum load as measured over the past 12 months.

C. For a Customer interconnecting an Inadvertent Export Generating Facility with a Maximum Capacity of 20 kW or less:

1. The Generating Facility shall utilize only UL 1741- and UL 1741SA-listed equipment;
2. The Generating Facility shall meet all applicable codes and standards required by this Article and referenced in the Utility Interconnection Manual;
3. The Generating Facility shall comply with Utility Interconnection and contractual requirements;
4. The Generating Facility shall comply with R14-2-2603(E)(1) and (E)(4) through (7);
5. No other Generating Facilities, other than isolated back-up Generating Facilities or Generating Facilities that are already subject to an executed Interconnection Agreement, may be at the same Point of Interconnection as the Generating Facility; and
6. The Generating Facility shall comply with R14-2-2615(E) and (F).

D. The Expedited Interconnection Process shall proceed as follows:

1. An Applicant shall complete an Application provided by the Utility and submit the Application to the Utility along with all required supplemental information and documents, which shall be noted on the Application, as well as an executed Interconnection Agreement, if required by the Utility, and with an initial application fee or processing fee only if a tariff containing such a fee is approved for the Utility by the Commission.
2. Within seven calendar days of receipt of the Application, the Utility shall notify the Applicant whether the Application is complete or incomplete.
   a. When the Utility notifies the Applicant that an Application is incomplete, the Utility shall specify what additional information or documentation is necessary to complete the Application.
   b. Within 30 calendar days after receipt of notification that an Application is incomplete, an Applicant shall withdraw the Application or submit the required information or documentation. If an Applicant does not submit the required information or documentation within 30 calendar days, the Application may be considered withdrawn.
3. Within seven calendar days following the receipt of a complete Application, the Utility shall review the Application and notify the Applicant of one of the following determinations;
   a. The Generating Facility meets the requirements of subsections (B) and (C), and the Application is approved as submitted; or
   b. The Generating Facility does not meet the requirements of subsections (B) and (C), in a manner specified by the Utility; the Application is no longer eligible for processing under the Expedited

Interconnection Process; and the Applicant has the option to select Application processing in accordance with R14-2-2620.

4. If the Application is not accepted as submitted, the Applicant shall notify the Utility within 30 calendar days whether it wishes to proceed with the Interconnection.
   a. If the Applicant does not wish to proceed with the Interconnection, or the Utility is not notified within the specified time-frame, the Application may be considered withdrawn.
   b. If the Applicant wishes to proceed with the Interconnection, the Utility shall begin processing the Application in accordance with R14-2-2620.
5. Once an Application is approved:
   a. If the Utility has not received an executed Interconnection Agreement, the Utility shall send to the Customer, within three calendar days after the notice of Application approval, the appropriate Interconnection Agreement for review and signature; and
   b. Within three calendar days of the receipt of all final applicable signed Interconnection documents, the Utility shall notify the Customer that the Generating Facility is approved for Parallel Operation.

R14-2-2624. Disconnect Switch Requirements

A. If required by a Utility, a Customer shall install and maintain a visual-open, manually operated, load break Disconnect Switch that completely opens and isolates all ungrounded conductors of the Generating Facility from the Distribution System. For multi-phase systems, the Disconnect Switch shall be gang-operated.

B. A Utility may impose additional requirements for a Disconnect Switch in its Interconnection Manual.

R14-2-2625. Advanced Inverter Requirements

A. If interconnected after the effective date of this Article, a Generating Facility utilizing inverter-based technology shall be interconnected via advanced inverter(s) that are capable of, at minimum, the advanced grid support features specified in subsection (B).

B. At a minimum, an advanced inverter shall be capable of the following grid support features:
   1. Volt/VAR Mode – Provide voltage/VAR control through dynamic reactive power injection through autonomous responses to local voltage measurement;
   2. Volt/Watt Mode – Provide voltage/watt control though dynamic active power injection through autonomous responses to local voltage measurement;
   3. Fixed Power Factor – Provide reactive power by a fixed power factor;
   4. Anti-Islanding – Support anti-Islanding to trip off under extended anomalous conditions;
   5. Low/High Voltage Ride-through (L/HVRT) – Provide ride-through of low/high voltage excursions beyond normal limits;
   6. Low/High Frequency ride-through (L/HFRT) – Provide ride-through of low/high frequency excursions beyond normal limits;
   7. Soft-Start Reconnection – Reconnect after grid power is restored; and

8. Frequency/Watt Mode – Provide Frequency/Watt control to counteract frequency excursions beyond normal limits by decreasing or increasing real power.

C. The grid support features listed in subsections (B)(1), (2), (3), (7), and (8) shall only be activated upon mutual consent between the Customer and the Utility.

D. The grid support features listed in subsections (B)(4), (5), and (6) shall always be operational.

E. Advanced inverters shall meet the shutdown protective functions (under/over voltage, under/over frequency, and anti-Islanding) specified in IEEE 1547-2018, which is incorporated by reference in R14-2-2614(E)(1).

R14-2-2626. Utility Reporting Requirements

A. Each Utility shall maintain records concerning each received Application for Interconnection and shall include in its records:

1. The date the Application was received;
2. Any documents generated in the course of processing the Application;
3. Any correspondence regarding the Application;
4. The final disposition of the Application; and
5. The final disposition date.

B. By March 30 of each year, each Utility shall file with the Commission a Distributed Generation Interconnection Report, with data for the preceding calendar year that shall include:

1. The number of complete Applications denied by track level, including the reasons for denial;
2. A list of special contracts, approved by the Commission during the reporting period, that provide discounted rates to Customers as an alternative to self-generation;
3. Pre-Application Report:
   a. Total number of reports requested;
   b. Total number of reports issued;
   c. Total number of requests withdrawn; and
   d. Maximum, mean, and median processing times from receipt of request to issuance of report;
4. Interconnection Application:
   a. Total number received, broken down by:
      i. Primary fuel type (e.g., solar, wind, biogas, etc.); and
      ii. System size (<20 kW, 20 kW-2 MW, >2MW);
   b. Expedited Interconnection Process:
      i. Total number of applications approved;
      ii. Total number of applications denied;
      iii. Total number of applications withdrawn; and
      iv. Maximum, mean, and median processing times from receipt of complete Application to execution of Interconnection Agreement;
   c. Level 1 Super Fast Track Process:

i. Total number of applications approved;

ii. Total number of applications denied;

iii. Total number of applications withdrawn; and

iv. Maximum, mean, and median processing times from receipt of complete Application to execution of Interconnection Agreement;

d. Level 2 Fast Track Process:

i. Total number of applications approved;

ii. Total number of applications denied;

iii. Total number of applications withdrawn; and

iv. Maximum, mean, and median processing times from receipt of complete Application to execution of Interconnection Agreement;

e. Supplemental Review:

i. Total number of applications approved;

ii. Total number of applications denied;

iii. Total number of applications withdrawn; and

iv. Maximum, mean, and median processing times from receipt of complete Application to execution of Interconnection Agreement; and

f. Level 3 Study Process:

i. Total number of System Impact Studies completed;

ii. Maximum, mean, and median processing times from receipt of signed System Impact Study agreement to provision of study results;

iii. Total number of Facilities Studies completed;

iv. Maximum, mean, and median processing times from receipt of signed Facility Study agreement to provision of study results;

v. Maximum, mean, and median processing times from receipt of complete Application to execution of Interconnection Agreement.

R14-2-2627. Electric Cooperatives

A. Upon Commission approval of an Electric Cooperative's Interconnection Manual, its provisions shall substitute for the timeline requirements set forth in R14-2-2614 and R14-2-2616 through R14-2-2623 for the Electric Cooperative and its Customers.

B. Each Electric Cooperative shall employ best reasonable efforts to comply with the deadlines set forth in the applicable provisions of this Article or, if unable to meet those deadlines, shall process all Applications and conduct all inspections and tests in the shortest time practical.

R14-2-2628. Interconnection Manuals

A. No later than 90 calendar days after the effective date of this Article, each Utility shall file with Docket Control, for Commission review and approval, an Interconnection Manual that:

1. Contains detailed technical, safety, and protection requirements necessary to interconnect a Generating Facility to the Distribution System in compliance with this Article and Good Utility Practice; and
3. Specifies by date, either within its main text or in an appendix, the version of each standard, code, or guideline with which an Applicant's Generating Facility must comply to be eligible for Interconnection and Parallel Operation.

B. A Utility shall revise its Interconnection Manual as necessary to ensure compliance with Good Utility Practice.

C. A Utility shall file each revision to its Interconnection Manual with Docket Control, for Commission review and approval, at least 60 calendar days prior to the proposed effective date of the revision.

D. A revision to an Interconnection Manual that a Utility has determined is necessary to enhance health or safety shall become effective immediately, subject to subsequent review and approval by the Commission.

E. The Commission's Utilities Division may contest a Utility's proposed revision to its Interconnection Manual and may seek a suspension of the effective date of the revision to allow for further review.

F. A Utility shall file with Docket Control, within 10 calendar days after the effective date of a decision approving any revisions to its Interconnection Manual, an updated Interconnection Manual conforming to the Commission's decision.

G. A Utility shall make its Interconnection Manual available on the Utility's website.

H. A Utility shall implement and ensure compliance with its Commission-approved Interconnection Manual.